

See Article on Page 26 entitled "A Visit to Mars," by the Distinguished French Astronomer, Camille Flammarion.

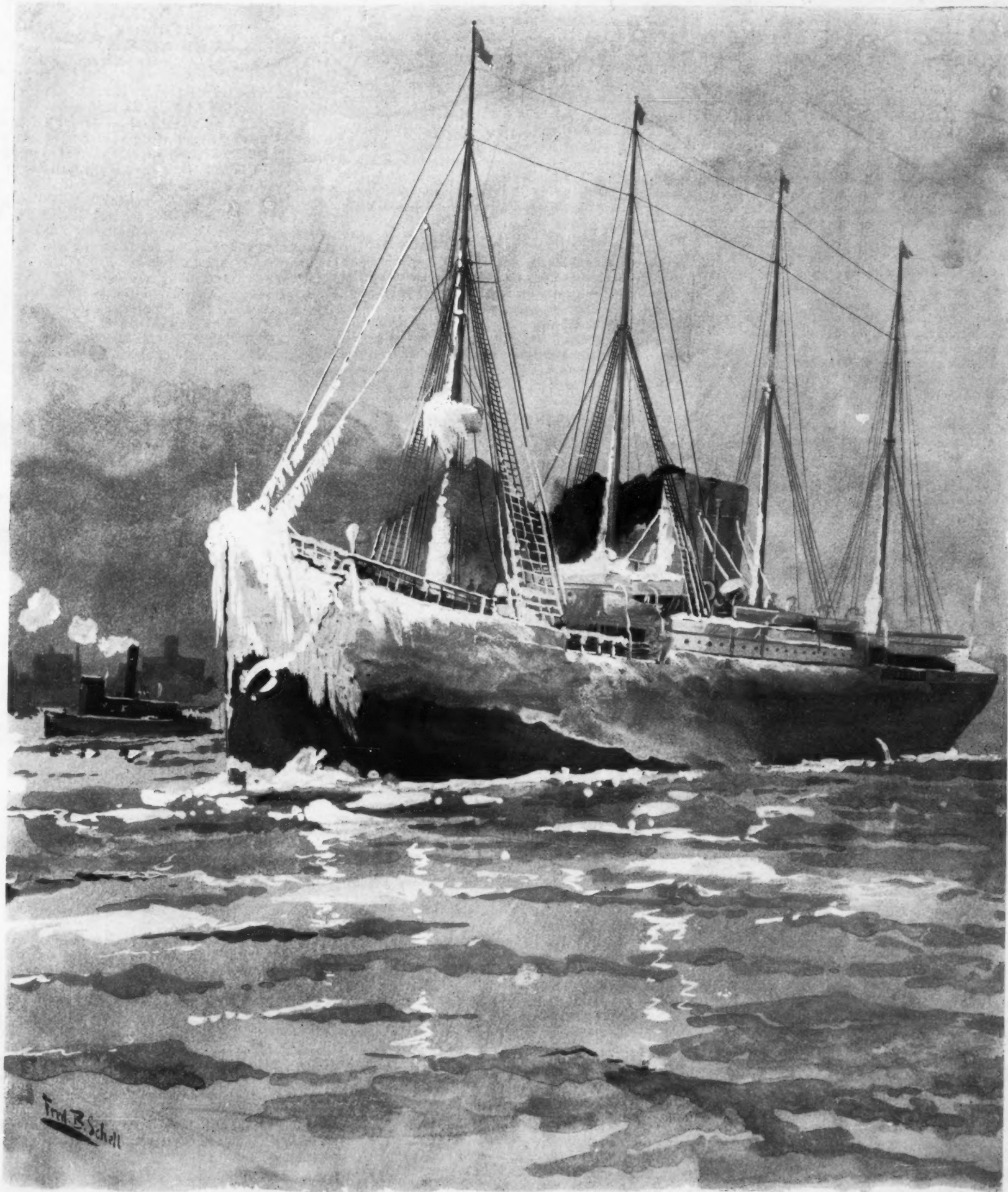
FRANK LESLIE'S ILLUSTRATED



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NEW YORK, JANUARY 12, 1893.

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WINTER WEATHER AT SEA—THE NORTH GERMAN LLOYD STEAMER "SAALE," AS SHE APPEARED ON HER ARRIVAL AT THIS PORT,
AFTER A TEMPESTUOUS VOYAGE.—DRAWN BY F. B. SCHELL

LESLIE'S WEEKLY.

W. J. ARKELL, Publisher.

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PARTY REORGANIZATION.

WE have received a number of letters from leading Republicans in this State strongly approving the position of this newspaper with reference to the necessity of a change in the management of the Republican party in New York. Some of these letters speak in terms of great severity of the unsatisfactory direction of the recent campaign on the part of the Republican managers, and all of them agree that the party cannot hope to maintain itself against the organized and well-disciplined Democracy under its present incompetent leadership and with its present incoherent methods. We shall, in an early issue, publish a number of these communications, with the suggestions which have been offered for a re-adjustment of the party organization.

Meanwhile, it may be well to say that if anything is to be practically done toward the elimination from the party management of the moss-grown and obnoxious elements which now so largely dominate it, definite steps should at once be taken for a conference among those who hold to the view that the existing régime must be broken. Mere newspaper condemnation of old methods, or the suggestion of plans of reorganization, will amount to nothing whatever unless practically acted upon. There are plenty of men in the Republican party of New York who are competent to lead in this work of reorganization—men whose loyalty to Republican principles is unquestioned, whose capacity is conceded, and whose identification with such a movement would give it strength with the people. What is immediately needed is that men of this character shall, by popular selection, get together, formulate a scheme of reorganization, and then go to the masses of the party with an appeal for its adoption. No plan can be successful which does not reflect the voters themselves. It is to be remembered that the men now in control are entrenched in usage, and have the advantage of the machine at their back. They will not readily acquiesce in a demand for a new deal; but they hold whatever of eminence they enjoy by sufferance of the party, and, strong as they may imagine themselves to be under the system which practically disfranchises the great body of Republican voters, they can be shaken loose by a positive and vigorous assertion of the conscience and will of the party under wise and intelligent direction. There is no more important or urgent duty for the Republicans of this State than this of acting out along positive lines the convictions which so largely prevail among the rank and file.

WEALTH AND ITS RESPONSIBILITIES.

THE princely Christmas gift of one million dollars to the University of Chicago, by Mr. John D. Rockefeller, was one of the notable incidents of the holiday season. This is Mr. Rockefeller's fourth great subscription to the university, the total sum given by him now amounting to three million six hundred thousand dollars. The principal of the million just given is to remain forever an endowment of the university, the income to be used only for the compensation of instructors. This university is especially fortunate in its patrons. Simultaneously with Mr. Rockefeller's gift, another generous individual, whose name is not given, contributed two hundred and fifty thousand dollars to its treasury.

Acts of beneficence like those here recorded have an infinitely higher than any mere economical value. Vast accumulations of money in individual hands, especially where they are not the fruit of well-directed toil, and are selfishly employed, are in a sense mischievous. They stimulate popular discontent. They nourish that spirit of anarchy which has its source in dissatisfaction with the inequalities of life and the social conditions which make such inequalities possible. They beget disorder and collisions of classes. Very much of the unrest which exists among the working classes can be traced to the rapacity of employing millionaires, whose accumulations have made them pitiless and arrogant, and indifferent to the rights and needs of their fellows. Such inequalities must always exist, but antagonisms of classes in a country like this, where the spirit of democracy has full sway, are inexorable. How these antagonisms can best be minimized

is one of the serious problems of the time. Obviously no cure can be permanent which is not based upon a perception of the mutual obligations which underlie all human development. The successful classes, often called the higher classes, though not always by any means the perfect flower of civilization, are in the nature of things charged with the larger responsibility in this work. With wider education of the masses many misconceptions will be dissipated, and a better condition will result; but along with the diffusion of true ideas as to social relationships there must be a broadening of views as to the responsibilities and true uses of wealth among those in whose hands the capitalistic forces are lodged. It is in this light that such acts as those of Mr. Rockefeller, and others like him, possess an almost measureless significance and value. It is not only that the magnificent gifts help to equip coming generations of men for the highest achievements in every field of endeavor. That is an enormous contribution to the general welfare and the productive energies of the future. But the supreme gain lies in the moderation of social prejudices and asperities, and the strengthening of the ties of brotherhood which such acts of beneficence certainly produce.

In all this we offer no justification of the monstrous theories of the dynamiter and anarchist, or the demands of the socialist, who, in his lust for stolen goods, ignores all rights of property. Men of this class can never be appeased. They are enemies of society, conspirators against its peace, buccaneers who would spoil and burn and kill in order to achieve their ends, and they must be dealt with as such. But we cannot, meanwhile, shut our eyes to the fact that these apostles of pillage and rapine have a real constituency, and it is obviously the part of wisdom to remove as far as may be every pretext for the propagation of their mischievous doctrines.

WOMEN AS TIPPLERS.

LADY HENRY SOMERSET, the English lady who is so earnestly interested in temperance reform, recently startled the world by saying that the reform in the use of alcoholic beverages should begin at the top of English society instead of at the bottom, because it was a lamentable fact that even the women of the nobility and gentry had become as regular in the use of "pick-me-ups" as the steady frequenters of the coffee-houses, as dram-shops are called in England. This statement from a lady so high in social position carried some weight with it, and an investigation showed that the use of stimulants was pretty general in England, even among people high in station, but it did not prove all that was charged. Indeed, every one with knowledge of England knew before Lady Henry Somerset said anything on the subject that English men and women consumed, in comparison with their American brothers and sisters, an enormous quantity of spirits. The climate of the British Islands is such that an amount of alcohol can be absorbed and digested that would make of Americans using it at home confirmed drunkards.

This English charge has stirred up the correspondents in New York, who are always quick to seize any sensation, either real or fancied, and for months past the out-of-town papers have been filled with lurid accounts of the dissolute doings of the women in New York. It has been represented that there are fashionable resorts where apparently innocent girls and young matrons go and drink the nerve-wrecking cocktail at all hours of the day; that there are also women's clubs where intoxicating beverages are consumed with a reckless disregard of consequences, and that in almost every drug store there is what is nominally a soda-water bar, but which in reality is a place where a wink means "whisky straight" and two winks "whisky with bitters." Now all this is arrant nonsense, and would be unworthy of notice had not a New York newspaper, that should be presumed to know the town and the habits of its people, recently printed several highly-colored descriptive articles on supper resorts to which women of great respectability flocked night by night and drank great quantities of wine and liquor. There are dissolute women in New York, no doubt. We have recently heard of them from the Rev. Dr. Parkhurst and Mr. Byrnes, the superintendent of police. These women are bad in almost every way. They drink to excess and commit other crimes against society. But because they are unchaste it has never occurred to any one to charge that unchastity was common in New York. The plain truth is that the men and women in America drink less than those of any highly-civilized people in the world, and both men and women drink less than they did a hundred years ago, or fifty years ago, or even ten years ago. It has not been long since to get drunk occasionally was regarded as an evidence of sociability; to get drunk often as an evidence of extreme amiability of character, and to become even a drunkard was pardonable frailty. But now, to be seen drunk is a disgrace in every section of society, and women look upon it with less indulgence than men, for from drunkenness in men women are the greatest sufferers.

And this regarding of drunkenness as a disgrace is at a time when medical practitioners look upon the habit of excessive drinking as a disease, to be treated as the small-pox or scarlet fever is treated. In a paper in a recent review an expert on inebriety says that American women drink very little indeed, and the habitual use of drink is

generally changed by a woman into a use of drugs. To show how indisposed American women are to excessive drinking, he points out the fact proved by statistics that while the male children of drunkards usually become drunkards, the female children are as free from drunkenness as the children of parents entirely correct in their habits. The American women are all right in every regard, as they always have been, and the average is as high in New York as anywhere else in the world.

THE COMING ROMAN CATHOLIC CONGRESS.

ALL intelligent observers must be impressed by the vigor and earnestness with which the Roman Catholic Church in this country is addressing itself to the consideration of questions of practical concern. With growing tolerance of views, it seems to realize that its hold upon the people is to be maintained by putting itself abreast of every movement which looks to the betterment of their condition, socially and industrially. There can be no doubt that its influence has been wisely employed in recent years for the repression of the anarchical spirit which has been only too rampant, and that it has contributed, to a considerable extent, to the prevention of antagonisms between labor and capital which would have resulted disastrously to both.

As an indication of the temper of its controlling minds, the programme issued for the Catholic congress which is to be held in Chicago during the World's Fair is most significant. This conference will be composed of delegates from all the dioceses and vicariates of the country, and there will be, in addition, representatives from every university, college, and seminary for young men. It is designed to enlist the highest capacity of trained scholars and thinkers in the consideration and treatment of the subjects proposed to the congress. These will relate to the so-called "social question" and Catholic education in the United States. Under the former of these heads will be included the rights of labor, the duties of capital, pauperism and the remedy, trade combinations and strikes, immigration and colonization, intemperance, public and private charities, the future and condition of the negro, and the work of women in religion and in the world. This list includes nearly all the subjects of vital social concern, and it can hardly be otherwise than that the discussion of them will bring out helpful suggestions and remedies. Indeed, the circular letter of the committee having the matter in charge declares explicitly that it "will not suffice that the congress shall be merely a medium and opportunity for the delivery of clever essays," but its members must be prepared to propose practical reforms. This committee employs as to this point the following language:

"This will be the occasion and opportunity to bring forth the best and most perfect fruits of Catholic intellectual power. The utmost freedom of discussion is invited in the sections, and when the results of the deliberations and conclusions arrived at shall be formulated and presented to the congress—embodying, as these will, the best thought and the deliberate convictions and conclusions of wise and thoughtful men—the affirmation of these by the congress by the practical remedies proposed cannot but profoundly influence public opinion at home and abroad."

It may be that the expectations of the promoters of this congress will not be altogether realized in the results actually achieved, but there can be no question that they are working along right lines, and men of all shades of opinion will welcome any practical outcome which may be reached. In the face of the problems which now confront us touching the relations of labor and capital and the maintenance of civil and social order, every contribution to the common stock of knowledge as to the best method of their solution is in the nature of a real public benefaction.

REORGANIZING FOR VICTORY.

It is quite evident that the Republicans of Illinois are not disposed to accept the result of the recent election in that State as finally determinative of its attitude in national politics. The Republican State Committee has already taken steps looking to the reorganization of the party, with a view to aggressive action in the coming spring campaign. All the ward and town organizations of the State are to be readjusted to existing conditions. The chairman of the State committee will establish headquarters at the capital and take general supervision of affairs, and everything possible will be done to place the party in fighting trim for future contests. Especial attention will be given to the work of improving the party organization in Chicago, where there seems to be a need of more compact and trustworthy management than was displayed in the recent campaign. In this action of the Illinois Republicans there is a hint for the members of the party in this State, and especially for our State committee, which is doing nothing, and apparently contemplates nothing toward retrieving the disaster of last fall. It may be that this committee is in such a comatose state that nothing can revive it, but if it has the breath of life in it, such an example as this in Illinois ought to fan the feeble spark into a blaze.

THE NEW NAVY.

The first session of the Fifty-second Congress was animated by such a show of economy that the Navy Depart-

ment had to be content with appropriations for only two first-class additions to its new fleet—one a sea-going battle-ship to be named the *Iowa*, and the other an armored cruiser to be called the *Brooklyn*. Bids for the construction of these were opened recently, and if cost may be the chief requisite to admission to a class they may be put down as belonging to the group of three-million-dollar vessels. The government is already building seven vessels, the cost of each of which approximates that sum.

The *Iowa* is simply an improvement on the *Indiana* class of battle-ships, two of which are being constructed at Cramps' ship-yard. The *Indiana*, Secretary Tracy said, would be one of the most magnificent fighters that ever rode the seas, but the main idea in her construction was that of seacoast defense. She was intended to be the big policeman with a beat along the outside of our territory. If any fighting had to be done, defensive fighting was to be her stronghold.

The *Iowa* is an advance on that idea. She is to be an aggressive battle-ship. It was thought that it would be difficult to improve on the *Indiana*, but such is the American ingenuity that we are the first to do it. For example, the *Iowa* will be one thousand tons heavier than the *Indiana*, her tonnage being eleven thousand two hundred and ninety-six. Her freeboard will be eight feet higher, making her a better boat to handle at sea and giving the forward guns a higher elevation. There will be more rapid-fire guns on her, and instead of having four thirteen-inch guns the calibre of her largest guns will be reduced to twelve inches. This is to enable them to be worked by hand. The English are reducing the size of their guns for the same reason. The *Iowa* will be one knot faster than the *Indiana*, will have increased defensive power, greater coal endurance and speed. No government in the world will have so effective an all-around fighter as the *Iowa*, although there are some vessels which surpass her in one or more minor qualities.

When the armored cruiser *New York* was launched Secretary Tracy loudly proclaimed her mistress of the seas as an aggressive commerce-destroyer. He was right; but now he has improved upon her in the *Brooklyn*. She is to be one thousand tons larger than the *New York*, her tonnage being nine thousand one hundred and fifty. She is to have a higher freeboard, two more eight-inch guns, an increase in coal capacity of thirty per cent., and she will be able to steam from New York to San Francisco without stopping for coal. It was the idea of Engineer-in-chief George W. Melville to build the very high smoke-stacks on the *Brooklyn*, and thus do away with the forced-draught system. This is an English suggestion also. The like of the *Brooklyn* not only has not been built, but has not been planned elsewhere than in the United States.

In leaving the Navy Department with such vessels as the *Iowa* and *Brooklyn* to represent the efficiency of American ingenuity, Secretary Tracy may rest content that his reputation as the most progressive and clear-headed Secretary of the Navy the United States has ever had is secure. Strange to say, he has made the work of his successor both easy and very difficult.

DISPUTED HONORS.

OUR contemporary of the New York *Sun* has been generally accorded the credit of contributing enormously to Democratic success by injecting the Force-bill issue into the late campaign. Its almost daily appeal, "No Force bill, no negro domination," rang like a clarion throughout the land, and was supposed to have summoned the Democratic hosts to victory. But now comes the Memphis *Appeal-Avalanche* with a distinct denial of the claims of the *Sun* to this particular honor. The *Appeal-Avalanche* claims that the credit of introducing this issue was due to itself, and that the Southern press generally made a fight along this line from the beginning of the contest. Not content with thus stripping the *Sun* of its well-earned laurels, our Memphis contemporary has the cruelty to say that "so far as the *Sun* is concerned, there is not a paper of any importance in the North that has so little influence in the South as it." It emphasizes its statement by adding that the *Sun's* "bombs had about as much effect on the Southern people as Dyrenforth's dynamite bombs had in producing rain throughout the Southern States." We cannot agree with our Southern contemporary in this opinion. Without disputing at all the influence of Southern newspapers in solidifying their people as to this particular question, it must be insisted that their influence at the North was altogether insignificant. It was here that the introduction of the issue was meant and expected to be effective, and it is the simple truth that immense mischief was done to the Republican cause by the pertinacity and ability with which the *Sun* kept it before the public mind. Our good friend of the *Appeal-Avalanche* is greatly mistaken if he supposes that Mr. Dana can be deprived of the peculiar glory which he has earned in this regard.

MEDICAL EDUCATION OF WOMEN.

THE movement looking to the establishment of a department for the medical education of women in Johns Hopkins University is at length crowned with success. It will be remembered that some time ago Miss Mary E.

Garrett, one of the projectors of the movement for such a department, contributed the sum of fifty thousand dollars toward its establishment. Auxiliary committees of women in various cities subsequently raised the sum of one hundred thousand dollars, upon the assurance of the trustees of the university that such a department would be established as soon as an endowment fund of five hundred thousand dollars should be secured. Miss Garrett has now given three hundred and fifty thousand dollars in addition to her original contribution, thus securing to this university what will probably be one of the greatest medical schools in the world, in which female students will have an equal opportunity with those of the other sex in acquiring a medical education. There can be no doubt, now that women are making their way in all useful professions, and are displaying an especial adaptability in medicine, that applicants for admission equal to the capacity of this school will speedily appear.

TOPICS OF THE WEEK.

THE awards in the Presidential vote contest in FRANK LESLIE'S ILLUSTRATED WEEKLY will be made immediately upon the official announcement of the exact result of the popular vote.

MR. CLEVELAND'S opposition to the election of Mr. Edward Murphy, Jr., as United States Senator from New York does not seem likely to have any appreciable influence on the result of the contest. The sentiment of the party is undoubtedly in favor of Mr. Murphy, and that sentiment has been, if anything, strengthened by Mr. Cleveland's interference. There's lots of fun ahead for disinterested spectators of the Democratic fracas, of which this controversy is the beginning.

THE acquittal of Professor Charles A. Briggs on all the charges brought against him is a distinct triumph of enlightened scholarship and the right of critical investigation in the Presbyterian Church. Professor Briggs is undoubtedly somewhat arrogant in some of his assumptions, but his piety and fidelity to all essential Scriptural truth is beyond dispute, and his conviction on the general charge of heresy would have been a much more serious misfortune to the church to which he belongs than it would have been to himself personally.

CONGRESS should give immediate attention to the subject of restricting, or entirely prohibiting, immigration. There is no excuse whatever for delay. Of the two bills reported by the committee, that of Senator Chandler, which provides for a total suspension of immigration for one year from the date of its passage, is the more desirable. Confronted as we are by the probability of a cholera invasion, we cannot afford to adopt merely half-way measures. So long as immigration is continued at all, diseased, ill-fed, and destitute immigrants will find their way to this and other ports. The doors must be absolutely closed. We read that cholera is increasing in Hamburg, and that deaths are of daily occurrence. When we remember that this is one of the principal ports from which immigrants come to us, it can easily be seen how great would be the danger of permitting vessels bringing steerage passengers from that point to enter our ports. Is it not possible that, forgetting for a time its mere partisan contentions, Congress will give its attention to a subject of such supreme importance in its relations to the public security and the highest welfare of our people?

It does not surprise us to learn that the Democratic victory in this country was hailed by demonstrations of rejoicing in Australia. The interest of the Australian in Democratic success is accounted for by the fact that the opening of American markets to free wool would be of immense value to Australian farmers and wool-growers. Nearly one-half of the wool of the world is now produced in Australia, but Australian wool is sold in London at twelve cents per pound below the value of the same wool when imported into the United States. Of course the removal of this duty would put millions of dollars into the pockets of Australian wool-growers, and entail a corresponding loss to the farmers of this country. This accounts for the muck in that cocoanut.

THE honors conferred upon M. Louis Pasteur, the distinguished chemist and biologist of France, on the occasion of the seventieth anniversary of his birthday, were worthily bestowed. M. Pasteur has made very large contributions to the work of scientific discovery, and his achievements will command for him a high place among the scientists of his time. The festival in his honor which took place in the spacious halls of the French Academy of Sciences was dignified by the presence of President Carnot and ministers of state, and members of the diplomatic body, as well as by that of scientists and men of letters. An oration embodying a résumé of the scientific discoveries made by the illustrious guest was followed by the presentation to him of the gold medal of the academy. The ceremony of presentation is said to have been marked by great enthusiasm. In acknowledging the medal, M. Pasteur

expressed the belief that the time would come when science and peace would triumph over ignorance and their warlike passions of men, a result which he has done his best to promote in a long life of exceptional usefulness.

THERE seems to be a steady growth of insanity among the poorer classes of this city. A recent article in the New York *Times* shows that there are now six thousand insane persons in the various asylums owned by the city of New York. During the year ending with October last two thousand one hundred persons were admitted to the insane wards of Bellevue College Hospital, nearly all of whom belonged to the poorer, and many to the very poorest, class. The lunatics are about equally divided between the sexes. The great majority of violent cases comes from alcoholism. Next to this cause is the lack of employment and poverty, inducing melancholy and physical and mental decay. A fair proportion of the pauper insane recover, but in many cases recovery proves to be only temporary. The statistics show that the increase in pauper insane is out of proportion to the growth of the city population. Physicians do not undertake to account for this fact, but it may possibly be found in the harsher conditions which environ the poorest classes as the result of the congestion of population and the fierce competitions for employment which now so largely prevail.

THE LITERARY CONTEST.

So as to assist in enlivening the holiday season, this paper has concluded to inaugurate in America the latest English fashion—the missing-word contest. These amusing contests are now quite the rage in London, and we have heard of one of them in which 217,000 persons participated. As each participant contributed a shilling entrance-fee, the amount divided among those who supplied the missing word was large. The total, \$53,500, was divided among 114 persons, so each of these got almost \$470.

Here are the terms of the contest: Each person who wishes to try to supply the missing word in the paragraph that will presently follow must cut out the "Missing-Word Coupon" on this page of FRANK LESLIE'S ILLUSTRATED WEEKLY, and with name and address and the missing word plainly written in the proper blank spaces, send the same to this office, together with twenty-five cents in postage-stamps or currency. On the lower left-hand corner of the envelope inclosing the coupon and entrance-fee should be written "Missing-Word Contest." The total of the entrance-fees will be divided equally among those who correctly supply the missing word. This coupon will be printed in the issues of December 22d and 29th, and in that of January 5th and 12th, and each week thereafter until close of contest. The result of the contest will be announced in the issue of February 16th. No contestants will be permitted to enter after noon of February 1st.

There has been some doubt as to whether or not the proposed contest was objectionable to the law. So that there could be no doubt on the subject the post-office authorities have been consulted. The assistant attorney-general for the Post-office Department says that if the paragraph from which a word has been omitted be taken from a well-known book, to be found in almost every library, then there could be no objection. We therefore change the paragraph, and give a quotation from a writer well known to every reader of English literature. This is the paragraph:

"He knew, besides, that his powerful friends, who would have interceded for him had his offense been merely burning a house or killing a neighbor, would not plead or stand by him in so pitiful a concern as the slaughter of this wretched ———."

All who have sent in the missing word of the former paragraph are privileged to make another trial without paying another entrance-fee, or at their option to withdraw their entrance-fee.

Competitors may make as many attempts as they choose, but each attempt must be made on a coupon taken from this paper and accompanied by the entrance-fee of twenty-five cents.

THE MISSING-WORD COUPON.

Entrance-fee to the contest, twenty-five cents in currency or stamps. Cut this coupon out, fill up the blanks, and with the entrance-fee post it to the Arkell Weekly Company, 110 Fifth Avenue, New York City.

Name.....

Street.....

Post Office.....

Missing word.....

January 12th, 1893.

In order that there may be no doubt as to the legality of this contest, we append the following official letter:

WASHINGTON, D. C., December 22d, 1892.

"MR. W. J. MERRILL, Business Manager Arkell Weekly Company, New York, N. Y.

"DEAR SIR:—General Tyner is absent in New York; hence, I acknowledge the receipt of your letter of the 21st instant.

"The modified advertisement of your 'Missing-word Contest' seems to comply in every particular with the suggestions made by the assistant attorney-general in his letter of the 20th instant. The scheme as it now stands does not in anywise conflict with the provisions of the lottery law.

Very respectfully,
R. W. HAYNER,
Acting Assistant Attorney-General."

Face Studies.

By STILETTO.

LILLIAN RUSSELL.

A FACE which, by its passivity and general expressionless detail, indicates a shallow nature, a slow mind, and a total absence of serious thought. Nose and mouth combine to show in their lines and curves an intense degree of self-appreciation and tastes lacking in delicacy and refinement, while enthroned upon the lips may be seen vanity. Vanity which is sensitive,



MISS LILLIAN RUSSELL.

easily ruffled, which is swayed by the voice of comment, rides serenely upon a wave of flattery, or, losing courage, is irritable and spiteful under criticism. It does not taste of the sweets of complacency, and is forever unhappy. Behind the mild eyes lurks a quick temper, while superficially they speak the language of a trifier whom nature has made completely indifferent to the fate of her victim. The eyebrows, comparatively straight in line at first, but rising weakly before their conclusion, indicate much time spent in idle and vain reflection, and, aided by the firmly-closed lips and a strong capacity for calculation, visible at the outer corners of the eyes, suggest a fondness for concealment, which, however, because of its shallowness, seldom succeeds in deceiving the observing world. In the drooping nose may be seen slowness to receive impressions and a corresponding slowness in leading to true emotion. The chin, prominent and curving, and the almost equal development of both lips, disclose a character material, and both actively and passively voluptuous. Truly the lines of beauty are not always those of grace, nor does a symmetrical soul invariably dwell in a palace of loveliness.

WARD McALLISTER.

Has in his general make-up a dash of the military instinct which organizes and marshals forces. His eyes, deep set, speak the language



WARD McALLISTER.

of shrewdness, their keen glance detects with ease a mote astray from the general harmony of his intention; while a prominence and tendency

to overhang, visible between the eyelid and brow, indicates a faculty for calculation, a sense of order and system, and an appreciation of color which suggests good taste. Most prominent in the configuration of his head, mounding up conspicuously at the summit of his cranium, is veneration; but, alas! ideality, its twin, is lacking, and instead is the material, of good type but still the material, and Ego and the very present things of earth stand as the goal for the attainment of which are bent all the faculties of a clear, keen mind and determined will. The broad chin, indicating firmness and the permanence of all intentions, would be square but for a softening sweep of curve, suggesting appreciation of the softer things of earth, of the warmer side of a passion; but the mouth, drawn backward at the corners and closely compressed, controls with steady curb all outward expression of his actual thought, and indicates a liberal degree of coolness and precision. Eye and mouth are on guard, he is rarely taken by surprise, will dominate by persistent effort where a quick attack might fail. Capacity to express himself in words lies beneath his eyes, and lower down love of admiration and a supreme belief in himself, backed by a reasonable degree of actual capacity.

AN AMERICAN BEAUTY WEDS A BARONET.

THE American girl who has made the grandest match of the year is beautiful Mary Wayne Cuyler, of Morristown, New Jersey, daughter of the late Captain James Wayne Cuyler, U. S. A. Her mother was Miss Holten, of Wisconsin, a celebrated beauty herself. Miss Cuyler is almost faultlessly fair to see, with dark eyes and hair and creamily-tinted skin. Her education was received in Paris. Since then she has been a reigning belle in Washington, last winter holding greater sway than any other beauty of the year. She and her handsome mother entertained regally at their home on G Street.

The lucky winner of this American bride is Sir Philip Grey Egerton, who is considered one of the most desirable *partis* in England, being heir to an enormous fortune, three country seats, a town house, and a villa at Dinon. His vast hunting stables are celebrated far and wide. His yearly income is £20,000. The young baronet is nephew to Lord Londesborough and the Duke of Bridgewater, and is next in succession to the title and estate of the latter. The wedding took place in London on the



THE GREATEST MATCH OF THE SEASON—LADY PHILIP GREY EGERTON, NÉE MARY WAYNE CUYLER OF MORRISTOWN, NEW JERSEY.—PHOTOGRAPH BY ROSETI.

4th inst. The young Lady Egerton is a grand-daughter of Judge Wayne, justice of the Supreme Court for many years.

BUFFALO AND HOMESTEAD.

AN OBJECT-LESSON.

A PECULIAR condition of the labor world is that strikes as frequently occur in prosperous times as in bad ones. Workingmen, if left to themselves can, under most circumstances, agree with their employer as to the amount of wages fairly due them

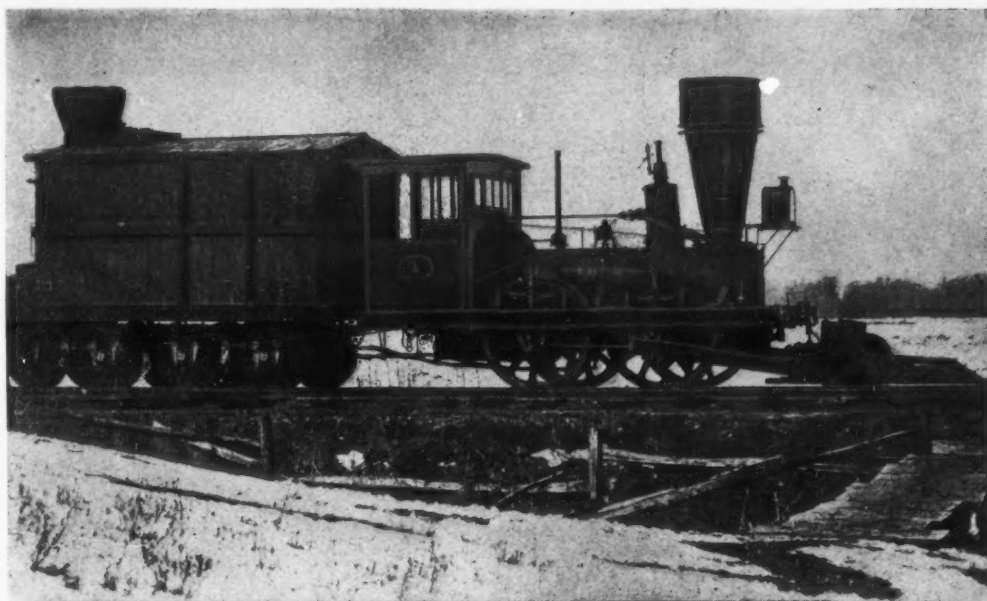
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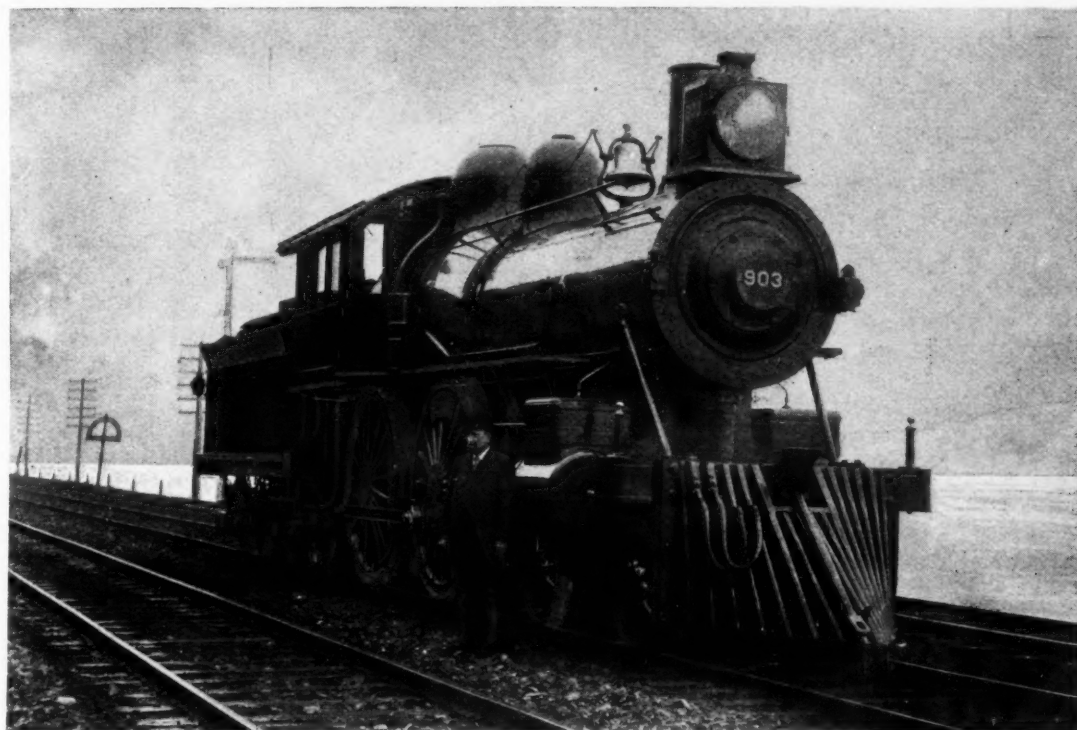
THE UNSUCCESSFUL STRIKER—THE REAL SUFFERERS FROM THE HOMESTEAD AND BUFFALO STRIKES—AN OBJECT-LESSON.—FROM A PHOTOGRAPH BY HAMMENT.

LOCOMOTIVE IMPROVEMENTS.

CONSTANT rivalry among the railroads brings about increased facilities and advantages to the public. When trains first began running over the Camden and Amboy Railroad between New York and Philadelphia, fifteen to twenty miles an hour was thought to be whirlwind speed; even at that rate of progression there were intelligent people who predicted untold disasters for so flying in the face of Providence. But how steam has annihilated space, hurling some of it into space again, we see in the wonderful transformation of the locomotive engine and that of the transatlantic steamship. A glance at our page of illustrations gives a very adequate idea of what strides the locomotive has made in the last sixty years. The old "John Bull" engine here shown has as romantic a history as anything of iron and wood can well have. It was built in England by Robert Stephenson early in 1831, brought to this country in the packet *Allegheny*, and put on the first three-quarters of a mile of track that then existed on the Camden and Amboy Railroad between Camden and Bordentown. Previous to the advent of this sire of iron horses, the trains had been drawn by the flesh and blood horses, generally in tandem teams, drawing coaches which were a sort of cross between a stage-coach and a van. This old "lokie" cost in those primitive days the neat little sum of £806, 18s and 9d, or a little over four thousand dollars. The original dimensions were: cylinder, nine inches diameter, twenty inches stroke; one pair of driving-wheels four feet six inches diameter; one pair wheels four feet six inches diameter, not connected; hubs of wheels of cast iron, spokes and rims of wheels of wood, tires of wrought iron; weight about ten tons. Compare this now with the later-day engines weighing seventy-two and one-half tons. After the sloop arrived from Philadelphia at



THE "JOHN BULL," THE FIRST ENGINE USED, IN 1833, ON THE CAMDEN AND AMBOY RAILROAD.



ENGINE 903, WHICH HAULS THE EMPIRE STATE EXPRESS ON THE NEW YORK CENTRAL RAILROAD.

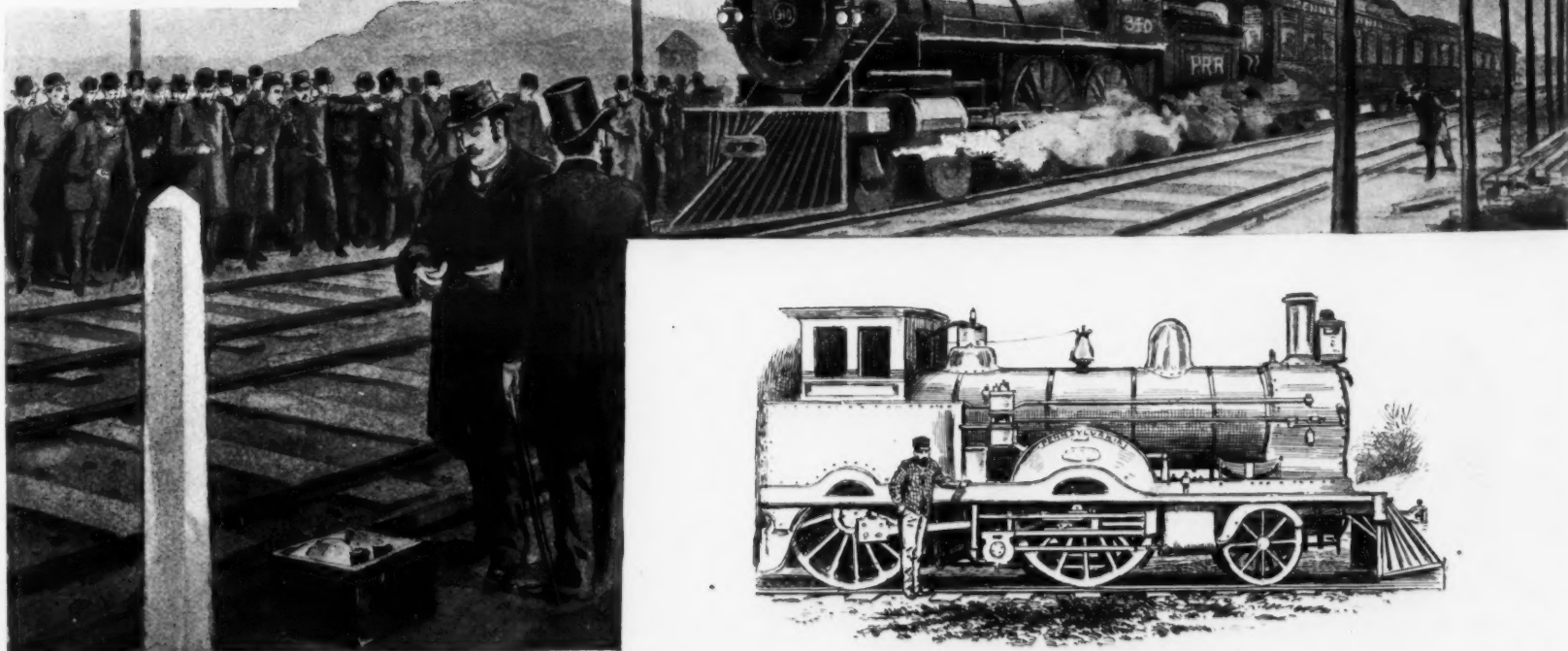
Bordentown the engine was hauled by wagons to the only piece of track ready to receive it. The machinery was there put together, and a tender constructed from a whisky hogshead placed on a small four-wheeled platform-car which had been used by a contractor in the construction of the road. The connection between the pump and the tank was made by means of a leather hose fitted by a shoemaker in Bordentown. The locomotive was first put in steam September 15th, and several trial trips were made before the first public trial on the 12th of November, 1831, Isaac Dripps acting as engineer, Benjamin Higgins as fireman, and R. L. Stevens as general instructor and conductor. The members of the New Jersey Legislature and a number of other prominent citizens were among the invited guests. The "John Bull" remained at Bordentown until 1833, when the Camden and Amboy Railroad Company began running their trains by steam power. It was then placed on the road and did regular routine service until 1866. To commemorate the birth of the old Camden and Amboy's first engine, the Pennsylvania Railroad, part of whose system the Camden and Amboy has been for years, dedicated, on November 12th, 1891, a monument at the spot where the engine was first placed on the rails. Isaac Dripps, then in his eighty-second year, its first "boss," was present at the ceremonies. Although Dripps was the "John Bull's" first "boss," Samuel B. Dougherty, formerly master-mechanic of the Camden and Amboy, now living in Jersey City, nearly eighty years old, had more to do with this old engine than any one else.

The Pennsylvania Railroad, always first in inaugurating all reforms and improvements in railroading in this country, has lately completed a series of tests looking to the further increase of a sustained high speed and draught in passenger locomotives. As long ago as 1846 a patent was issued in England to one

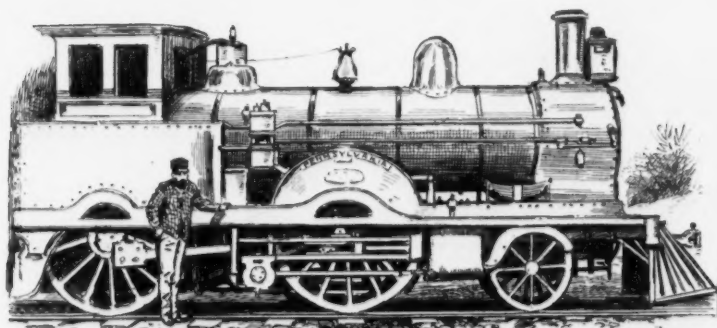
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SAMUEL B. DOUGHERTY.



THE PENNSYLVANIA'S "OWN," NO. 340, DOING A MILE IN 47 SECONDS.



THE NEW "JOHN BULL."

LOCOMOTIVE IMPROVEMENTS AND SPEED IN RAILWAY TRAVEL.—FROM PHOTOGRAPHS BY HEMMENT AND SKETCHES BY C. UPDELL.

LOVED AND LOST.

BY JUDITH SPENCER.

ATALL, bronzed man with a distinguished air was walking up Broadway. He looked about him with interest, and there was little that escaped his alert and keen gray eyes.

"Strange, the many changes in New York during the past ten years," he mused. "Hello! there's Robert Graham. Bob, old man, I'm glad to meet you. Yours is the first familiar face I've seen."

The man thus addressed stopped, and looked at him with a puzzled air.

"It can't be George Maynard?" he said.

"Can't it? Come, you used to know me well enough; but perhaps you are unacquainted with the beard."

"That's it! And I'd know your laugh among a thousand. Why the deuce didn't you laugh before? I'm glad to see you, old fellow. Why, it must be six or seven years since you went off so suddenly to China; and I haven't heard of you since."

"Ten, to be exact," said Maynard. "And since then I have been in almost every known and unknown country on the globe."

"You've made your fortune, of course?"

"Well, I have enough to live on," Maynard said, dryly.

"I am going to get some lunch. Come along into Delmonico's and talk over old times. By Jove! it does me good to see you again—it takes me back to the time when we were boys together."

"Of course I shall find great changes among my friends," said Maynard, over their luncheon. "Some have died, and some are married. That's your case, I believe. I heard that from Sam Thomas when I ran across him in Syria six years ago."

"Yes; in a moment of madness I slipped my head into the noose, and now I have three fine boys. You must come and stay with us at the old place, sometime. I would like to have you meet the madam."

"Thanks. And the rest of the family—all married, I suppose?"

"Yes, long ago."

"Including Beatrice?"

Graham's face darkened, and he said, after a moment's hesitation:

"I don't suppose you know—indeed, there was no way in which you could have heard—but Beatrice—eloped."

"Eloped?" said Maynard, setting down his glass untasted.

"Yes; ran off with a man we had never seen. You can imagine our feelings! We have never laid eyes on her since."

"How was it—and when?"

There was a shocked surprise in Maynard's voice.

"It happened about three years ago. You know what Beatrice was—always flighty and self-willed, but we never dreamed she would do a thing like that. Jim Parker was paying her attention, and as he had a pile of money we naturally were in favor of the match. But Miss Beatrice would, and she wouldn't, and finally she went away to the mountains to join some friends, and there she met this fellow—"

"Who was he?"

"His name was Elward Cooper, and that's all I know about him. When she came home Parker renewed his attentions, but Beatrice seemed uneasy, and finally went down to the city for a while, and on the day appointed for her return we received a letter saying she had been married—"

"To Cooper?"

"Yes; and that they were about to sail on a White Star steamer for an extended tour, and she hoped we would forgive her."

"What did you do?"

"I wrote and told her that she was a disgrace to the family, and we never wished to see or hear from her again. Maynard, to think that a sister of mine, brought up as she had been, should lower herself so far as to take up with an adventurer!"

"But what reason have you for thinking him an adventurer?"

"If he hadn't been, why didn't he come forward like a man, instead of persuading her to run off with him like that? I tell you it was her money he was after. She hadn't a fortune, but she had a tidy sum, for a young woman, and unfortunately it was all in her own hands."

"And have you never heard from her since?"

"Yes; six months ago she wrote again. She

had returned and was living in Summit. She said her husband was dead; but how, when, or where he died, she did not see fit to mention. Most likely he had only used up her money and left—gone off with another woman, perhaps. And she absolutely had the face to ask me to go and see her!"

"Surely you went?"

"I'll be hanged if I did! She shall learn that a girl is not to be recognized after cutting such a caper."

"I think you are too hard upon her," said Maynard, slowly.

Graham shrugged his shoulders.

"Enough, and too much, of her. Come, you've asked all the questions so far, and it is my turn now. How many broken hearts have you left behind you in all those known and unknown countries you were speaking about a while ago?"

"Not one, my dear fellow. I am a confirmed old bachelor."

"Nonsense, man!"

"Five and thirty is not young; besides, I am growing gray, and I've knocked about too long to be content to settle down. After a little I shall be off again for ten years more."

"Nonsense again! We'll soon find some pretty face to change all such ideas."

"I should like to see her," said Maynard, smiling.

After they parted Maynard became quite absorbed in thinking over what he had heard about Beatrice. He had expected to find her married when he returned, but he had not been prepared for news like this. He wished now he had asked Bob more about her, and he wondered if her husband were really dead, or if he had made way with her money and deserted her, as Bob supposed.

Poor Beatrice! What a beautiful girl she had been ten years ago—so bright, high-spirited, and willful. If it had not been for that foolish quarrel he would never have gone away to China, and she might never have eloped with the fascinating stranger—for Maynard had loved her very dearly then, and she had not seemed indifferent to him.

Ah, well; perhaps it had been for the best. But if she had really been left in want he would like to help her in some way—of course without her knowledge; or perhaps he could talk Bob over and bring about a reconciliation. And that idea pleased him.

With his faculty for making himself at home in whatever part of the world he chanced to be, Maynard was soon as snugly settled in New York as if he had never gone away. He was a popular man, and more than one pair of bright eyes regarded him with increasing interest, but only one pair had ever caused his heart to throb one beat the quicker, and they—poor Beatrice!

The thought of her made him uncomfortable. Her family had thrown her off, and now if she were *starving* she would make no sign. Maynard knew the strength of her pride too well. He had seen Bob Graham frequently, but all his efforts at reconciliation had proved futile, and he had failed to get any further tidings of her.

There was only one thing now that he could do. She had written from Summit months ago, and he *might* be able to find her by that slender clue. It seemed a forlorn hope, and yet his inquiries met with better success than he had looked for.

"Yes, sir," said a hack-driver at the station, "a widdier named Cooper does live here. Jump in, sir. I'll take you up to the house."

Maynard jumped in with an air of satisfaction, which quickly changed at the appalling thought—Suppose it should *not* be Beatrice! Cooper was no uncommon name, and he might be on his way to some other widow—fair, fat, and forty!

The carriage stopped before a pretty cottage. "You need not wait," said Maynard, paying the driver. "I will walk back."

On either side of the piazza were tubs holding great plants of lemon verbena, his favorite shrub, and involuntarily he plucked a leaf and crushed it in his hand, and with its familiar fragrance a thousand memories came crowding back upon his mind. They had been together in the old garden down among the verbenas that day—

A neat maid opened the door.

"Does Mrs. Cooper live here—Mrs. Beatrice Cooper?" he asked, rather nervously.

"Yes, sir; please walk in."

His footsteps were inaudible on the soft rugs that covered the hall and drawing-room into which she ushered him.

"Will you tell Mrs. Cooper that an old friend would like to see her?"

As his eyes became accustomed to the softened light he saw that the room was furnished with elegance and taste. But the thing that most attracted him was a frame that hung in the place of honor above the mantel—a marvel of beautiful wood-carving. The picture so enshrined was hidden by curiously carved Gothic doors, and as he drew nearer to examine the design he saw quaint letters twined among the leaves.

"'Tis better to have loved and lost,
Than never to have loved at all,"

he read. "It's her husband's picture, by Jove! She loved and lost him. He wasn't a scoundrel. She is as well off as ever, and I am a jackass!"

He turned as Beatrice was on the threshold, just entering the room. She was tall and lithe, and in her simple, soft black gown, with a bunch of violets on her breast, she looked as young and beautiful as the girl of twenty he had last seen ten years before.

"Beatrice!"

She gave a little cry of surprise, and Maynard thought she was about to fall. He sprang forward, but she had recovered herself.

"George—Mr. Maynard, why, how you startled me! I thought you were on the other side of the world. It is years and years since I have even heard of you—and then to have you drop from the clouds without a word of warning—it is enough to upset any one for the moment! Where *did* you come from?"

"From the clouds, as you said, and I have landed with a bump! But you do not say that you are glad to see me."

"I am glad, of course"—she had quite recovered her self-possession—"though I do not understand how you happened to find me here."

"Why, your brother mentioned—" Maynard stopped embarrassed.

"Oh—did he tell you—*everything*?"

"That you had married and were now a widow, yes. I am very sorry. I—I am awkward in saying it, but I really came to—to see if there was anything that I could do for you; I am such an old friend, you know."

"You are very kind," she said, twirling her wedding ring upon its finger, while the blood surged up into her face and then slowly ebbed away and left it whiter than before.

"How she loved him," he thought, gnawing his mustache and inwardly wishing that he had not come.

"I suppose my brother told you that he holds no intercourse with me?"

"It's a shame,—I told him so!"

"No, he is right. I can look at it now from his point of view, and I do not blame him; and yet"—with a little flash of defiant pride—"I do not regret that step, and under the same circumstances I should do the same again."

Maynard felt uncomfortable and hardly knew what to say. "Have you any children?" he asked at length.

The color mounted to her cheeks again. "No, I am quite alone. But come, I want to hear where you have been and what you have been doing all this long, long time, and whether you have returned to stay? Begin at the beginning, for I want to hear it *all*."

He stayed an unconscionable time, for she seemed so like the Beatrice of old, except when she relapsed into that dreamy mood and absently twirled her wedding ring—it was an unconscious trick of hers—and he fancied that she was thinking of her husband then, and was half inclined to feel jealous of the fellow.

He even lingered on the piazza over his apology for having stayed so long, while she laughed at him in her same old merry way.

"Is it good-bye," she said, "or only *au revoir*? Shall I see you again—ten years from now—or in two weeks' time?"

"May I come again?"

"Certainly. Why not?"

"Then it is only *au revoir*."

He pressed her hand very much as he had done ten years ago, before the quarrel, and hurried down to the station to catch the train.

"Maynard, you fool," he muttered; "are you going through the moth act again? I thought you had done with all that folly! You missed your chance ten years ago, and now her heart is buried with her husband, lucky fellow; it was easy to see that her gayety was forced."

Beatrice stood where he had left her until he was out of sight, then entering the little drawing-room, she opened the doors of the carved-wood frame and gazed upon the pictured face enshrined there, murmuring softly, "Beatrice, Beatrice, what *have* you done!"

The candle proved too dazzling for the moth, and soon Maynard was back, singeing his wings, and all through the spring and summer he visited her at regular intervals, though he had soon realized that he had everything at stake, while she had nothing.

His first visit had taken her unawares, but after that he had found her unapproachable, though as charming and willful as of old. She seemed well pleased to see him, but there was a reserve about her now which he could never penetrate, and the history of her wedded life she kept as a sealed book. She never mentioned her husband's name, and there was something in her manner that kept him from questioning her, though he had tried to entrap her into speaking more than once.

She had been telling him one day of something that had happened to her in Italy, when he said, "I was in Egypt that winter, and the merest chance prevented my going over to Italy. I regret it doubly now, for I should certainly have run across you, and I should have been so glad to have known your husband."

She looked at him in a strange, startled way, and absently twirled her wedding ring, but she made no answer, and Maynard was half angry at her silence.

"There is some mystery," he thought. "Can it be that she married a madman with lucid intervals, and that he died—perhaps made way with himself—during one of his attacks of frenzy?"

It seemed a probable solution, and he boldly introduced the subject, citing the supposed case of an imaginary friend—a splendid fellow, whose paroxysms of insanity had been at long intervals at first, but had grown more violent and more frequent as time went on until he had finally killed himself in a moment of frenzy; but Beatrice showed no tell-tale emotion, only much interest and pity for his imaginary friend, and he felt more baffled and astray than ever.

She had a clever way of keeping him at a distance, too, and he dared not even press her hand at parting, for when he had done so her quick change of manner and her coldness told him plainly that he must keep the place she had assigned to him or else must give her up forever. And this, in spite of his jealous anger, was more than he could do. But if she would not have him for her suitor, at least he could play at being her old familiar friend, and get what comfort he could from the sight of her face and the sound of her voice—but fool, fool! why had he let a little quarrel part them, years before?

Finally, even this pretense became too difficult, and one day, when she had been laughing at his moodiness, he said, abruptly, "I am going away again."

Her merriment was checked for a moment, then she said lightly, "Well, I have been expecting this announcement for some time—I only wonder that you have been content on this side of the world so long. But whither are you bound?"

"You do not ask *why* I am going!"

"No; why should I? What governs anything you do but your own free will and pleasure?"

"It is because I *cannot* have my will that I am going. Beatrice, do you not see that I love you, and that you are torturing me? I lost you once by my foolishness, and now I cannot win you back. Every word of yours shows plainly that you care nothing for me, and yet there is *nothing* I would not do to win you for my wife."

"What have I done?" said Beatrice.

"You *nearly* loved me once, and by the memory of those happy days will you not *try* to love me now?"

"Oh, you must not speak of love, and I must not listen! We can *never* be anything but friends—I thought you understood."

"I understand *nothing*. What is it that stands between us?"

She held out her hand, and his eyes rested upon her marriage ring. He changed color.

"Yes; but he is dead, and that no longer binds you. Keep those memories sacred if you will, but give me a word of hope. Don't send me away like this."

She hid her face in her hands. "What you wish for is *impossible*; you would not ever *wish* to marry me—if you knew."

"Beatrice, what are you hiding from me?"

She looked up at him with a strange light shining in her eyes. "George, I am *not* a widow!"

His face turned white.

"Beatrice, your husband is—*living*?"

"I have no husband."

He struck the table with his clinched hand.

"The villain!"

She stood before him proud and beautiful.

"You do not understand. I never was married; there never was any Elward Cooper."

"But—you eloped?"

"Alone! I went away and traveled with a surer-maid; it has been a deceit from beginning to end, though no one must ever know but you. But now do you see a reason for my answer? I have been living a lie, and had you known it before you would never have asked me to be your wife. And so," with a little defiant laugh, "I choose to remain—a widow!"

"But Beatrice," he said, bewildered, "why did you do it? What put such a fancy into your head?"

"They were forcing me into a marriage with a man I did not like, and this was the only way I could think of to keep my freedom. I could not foresee how it would end."

Through all his astonishment his heart throbbed gladly at the thought that there was nothing in this strange, half-proud, half-shamed confession to separate them, and he was about to clasp her to his heart when his eyes chanced to rest upon the carved-wood frame. Even now she was hiding a secret from him, the secret that she loved—another!

"The reason you could not marry the man they urged upon you lies here," he said, pointing to its fast-closed Gothic doors; "and that is also why I cannot win your love. At any rate, I will see my rival's face."

"Oh, George, you must not—you will not be so cruel!"

But he had torn the frail doors open, and was staring in amazement at the face that met his own; for that jealously-guarded treasure was a likeness of—himself, as he had been ten years before!

And Beatrice, still sweetly willful, stood waiting, half in laughter, half in doubt.

QUATRAINS.

PERFECTION'S STRENGTH.

SHE whom I seek to crown as my ideal
From some great height upon the world looks down.
So high perfection is she that I feel
She would not stoop, e'en to receive the crown.

A CYNIC.

He is a man whom I would truly call
One who holdeth all love's grace within his heart,
For, granting that love's grace be given to all,
He's ne'er conferred upon the world a part.

THE FAIRIES' PATHWAY.

When ripples, as of waters, go
Over the meadow grass,
And winds are silent, then below
The woodland fairies pass.

FLAVEL SCOTT-MINES.

LOCOMOTIVE IMPROVEMENTS.

(Continued from page 21.)

Thomas Craddock for a compound locomotive. The first in this country was issued in 1867 to John L. Lay. It will be seen, therefore, that in turning to this type of locomotive to secure a higher sustained speed, the engineers are merely recurring to another survival of the fittest. This compound system, although forty years old, has made more progress within the past five or six years than in all the others combined. One important reason for this revival of an old idea is, that as fuel has had a tendency to increase in value all over the world, mechanical engineers have been stimulated to perfect the compound principle. What the Pennsylvania people wanted was an engine capable of hauling at a very high rate of speed the heaviest and fastest trains on their schedule. The Pennsylvania runs the heaviest trains in the world, and their standard locomotives, powerful as they are, are not always equal, under all conditions of track and atmosphere, to haul their famous fast express trains and maintain their schedule to the minute. The Pennsylvania limited, of six Pullmans, weighs, without passengers on board, including engine and all, 780,000 pounds. But this is not the heaviest express train on this road. Train No. 9, known as the Western express, is made up of from seven to ten sleeping-cars, and, when heavily loaded, weighs over one million pounds. It will be seen that it takes an iron horse of more than average strength to maintain a high rate of speed with such a load behind it. Yet, with an engine of Class P type—the heaviest of Pennsylvania's engines east of Pittsburg—an average speed of forty-five miles an hour is maintained upon the New York division.

But the ambition of the company is to reduce the running time between New York and Philadelphia to ninety minutes. This means a sustained speed of sixty miles an hour. It is with this special object in view that the great engine, No. 1,515, has lately been completed at the Altoona shops of the company. This engine was not built for economy, but for a gain in power. You can get power as well in a straight engine as in a compound, but the former cannot be relied upon to maintain the same high speed as the compound type. The great size of this

engine can be pictured from the following description: The total weight of the machine alone is 145,000 pounds, or 72½ tons. When complete with tender, and ready for service, the combined weight of all is 224,000 pounds, or 112 tons. There never has been a locomotive constructed as heavy as this one, there being 45,000 pounds over each pair of drivers. The driving-wheels are the largest ever built for locomotives in this country, and are seven feet or eighty-four inches in diameter. The boiler pressure is 200 pounds, and the compound principle is of the two-cylinder type. These latter are of 19½ and 31 inches in diameter, the high-pressure cylinder being of course the smaller, and the low-pressure one being the largest cylinder ever built for locomotive purposes. The pistons of both cylinders have a twenty-inch stroke, and among the many advantages of this engine is the one enabling the engineer to start his train from the low-pressure cylinder. The high-pressure cylinder is on the left-hand side of the machine, and steam generated passes first through it, exhausts into the low-pressure cylinder, and is then blown off.

The boiler is 5 feet in diameter and 27 feet long. The fire-box is as large in proportion, being 9 feet long and 48 inches wide, inside grate measurement. The height to the top of the cab is 14 feet; to the stack, 15 feet; the distance from the bottom of the boiler to the rail is 6½ feet, so that a man, tall beyond the average, could walk underneath without getting his hair singed.

In the construction of locomotives the slide valves are usually placed on the top of the cylinder, but in this engine they are between them, and are piston-valves 12½ inches in diameter. One of the many novel features of this engine is the running board, which is of wrought iron, is the same height as the engine, and in front begins below the cylinders, thus forming an apron in front of them. By this device the cylinders, rods, and crossheads, it is hoped, will be protected from the cold winds caused by rushing through the atmosphere at a high rate of speed.

In spite of these great dimensions this engine, and all the great Baldwin, Schenectady, and English locomotives, are as yet in the nature of experiments. None have as yet hauled a fully-loaded, first-class passenger train between New York and Philadelphia in ninety minutes. The latest feat is a special mile run over the Bound Brook Road, New York division of the Philadelphia and Reading, a mile in thirty-seven seconds. If this speed could be maintained—and no doubt it some day will be—one hour will be the average running time between the two great centres. The schedule time of the Empire State express on the New York Central, hauled by engine 903, calls for a rate of fifty-two miles an hour. Indicator cards taken from a test of the engine running this train showed a development of 1,120 horse-power, on which occasion a speed of seventy-six miles per hour was maintained for a distance of twenty-three miles.

The tests recently made over the New York division of the Pennsylvania Railroad were between five engines, two of the famous Baldwin make, two from Schenectady, and another "John Bull," in competition with their own flyers of classes P and K; but it will be perhaps a year before the officials will be able to determine upon the results. It takes at least six months' constant use before a brand-new locomotive engine reaches its best development. In the meantime "Pennsy" is straightening and elevating her road-bed between here and the Quaker City, and making ready for these ninety-minute flyers between the two cities.

HARRY P. MAWSON.

(NOTE.—My thanks are due for much valuable information to Mr. H. B. Ingram.)

BUFFALO AND HOMESTEAD.

(Continued from page 20.)

for their labor, but when a trade is permeated by unions, and shops and factories are placed under the tyranny of walking delegates and kindred demagogues, discontent and unrest lead to strikes, and strikes to riot, pillage, bloodshed, and starvation.

The strike last summer at Buffalo calls forth our illustration of to-day. It shows how the "strikers," having violated the public peace, and hence called down upon themselves the strong arm of the law and the military force of the State, were compelled to stand idly by and see other men do their work and earn the wages which formerly belonged to them. No account is ever taken by these deluded persons that there may be other men not only willing but anxious to assume their places, as in the case of all strikes, and particularly in cases where unskilled labor is the factor. In the Buffalo case it was not one against lower wages, but a strike to obtain the same rate of pay as simi-

larly engaged employes were receiving at Chicago. It failed ignominiously, as all strikes fail that are born in a revolutionary spirit. The only satisfactory outcome of the strike was the driving from town of the demagogue who incited these men to strike, and whose subsequent course provoked the contempt of even the switchmen he represented.

At Homestead we are now confronted with the last great drama in that most celebrated of strikes. Not content with butchering men in cold blood who had already surrendered, some of the strikers are now accused—and seemingly by substantial evidence—with poisoning the non-union men who ventured to take the situations they had voluntarily relinquished. Almost simultaneous with this comes the doleful news that nearly three hundred families are starving as a result of the strike at Homestead. A writer in the Philadelphia Press says that twelve hundred persons are receiving relief from the committee charged with the care of the poor, and he adds: "The condition is truly a very lamentable one, so far as the present aspect of affairs at Homestead is concerned. Business is at a standstill; men whose life interests, apparently, were centered around the place are in prison or have disappeared, leaving no trace behind, or have gone to distant States to begin life over again at one-half or one-third the wages which they received for years in the mills of this place. Hundreds of those who remain are a burden upon the bounties of the people of the State; are compelled, they and their wives and children, to eat the bread of charity and warm themselves at the fires lighted by the hands of philanthropy."

It seems, indeed, strange that in the matter of these strikes he who runs may not read. Strikes are so frequently but a forerunner of disorder that in advance they are denounced and condemned by that portion of the people without whose moral countenance there can be, and ought to be, no chance of success. Two wrongs never yet made a right, and the failure of this to become a possibility precludes these strikes from realizing the hopes of the workingman. I never knew of a case yet where employer and employé met face to face, without the pernicious intervention of a trades-union, that all differences were not speedily and satisfactorily settled to the profit of both parties.

The lesson of strikes is that they are wrong in letter and dangerous in spirit. Inevitably they bring injury, loss, and suffering to the workingman and his family, and in more cases than one they lower instead of raising wages; for, granting that the workingman is fortunate enough to return to work at the same scale of wages as before the strike, does he not reduce the percentage of his daily wage by his self-elected idleness? Such object-lessons as Buffalo and Homestead furnish, one would think would last for a generation.

H. P. M.

THE INTERCOLLEGIATE

CHESS CUP.

NOTHING that has occurred in the collegiate world of chess in many years has excited such an interest among the players, and so stimulated their greatest skill in this most scientific of all games, as the costly trophy offered by a number of graduates of Yale, Harvard, Princeton, and Columbia for an annual chess tournament between the students of the four colleges. The first of the tournaments opened at the Berkeley School armory, in this city, on the 27th ult., and was continued from day to day with increasing interest.

The trophy is in the form of a silver cup, and is made by Tiffany, whose design was selected in open competition among the silversmiths. The cup reveals a marvelous study, not only of the game of chess and attitude of the players, but also of all the associations and surroundings characteristic of a student's college life. The trophy is of sterling silver, and is in general style heraldic; its form suggests the old Roman vases, while the handles and decorations introduced are typical of the Louis XVI. period. On the front of the cup is an example of the possibilities of the etcher's art on metal work. An interior view of a student's room is pictured, with a game of chess in progress. Beneath the etched picture, circling around the cup, are the seals of the four colleges—Yale, Harvard, Princeton, and Columbia.

The cup stands 12½ inches high, measures 9½ inches across the top, has a capacity of thirteen pints, and weighs nearly one hundred ounces. The deed of gift designates the tournaments to take place annually in New York City during the winter vacations of the colleges.

CHICAGO'S HIGH BUILDINGS.

THE architecture of Chicago's business district has undergone a remarkable transformation within a few years. A stranger who visits the Garden City to-day would scarcely believe that eight years ago the tallest building in Chicago—now famed the world over for tall buildings—was eight stories high; yet this is a fact. After the great fire that totally ruined the business district, the city was built up hurriedly. Little attention was paid then to architectural effects, the main object of its alert and pulsating population being to recover as quickly as possible from the ruin and desolation spread by the fire. Many of the handsomest buildings erected immediately after that disastrous conflagration have been torn down within a few years to give place to structures that command the admiration of architects the world over.

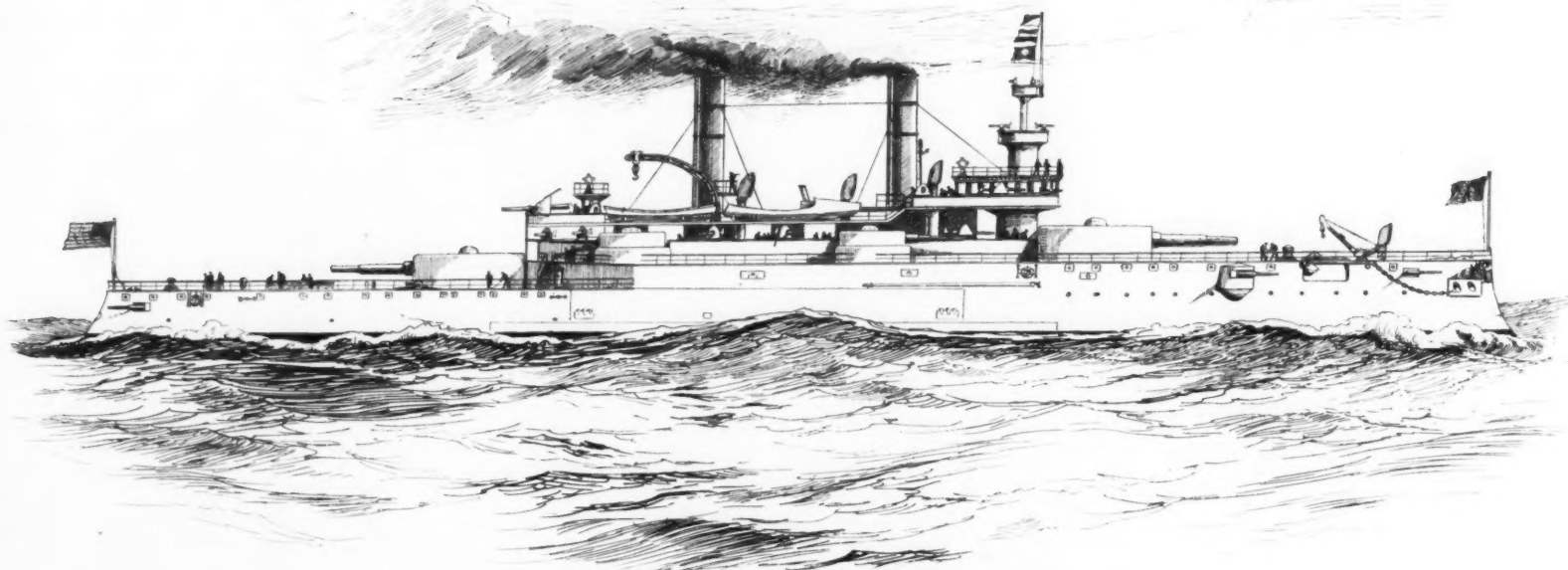
The first "tall building" erected in Chicago was the Montauk Block, which stands on Monroe Street, just west of Dearborn. It was built about eight years ago, ten stories high. It is a mere pigmy now, when contrasted with some of the giant structures that have since pushed their domes skyward.

While Chicago may not count more tall buildings than its Eastern rivals, she certainly has a greater number of "sky-scrapers," as they are called in the West, within a given area than any other city in the world. The Masonic Temple is regarded by experts as one of the greatest achievements of American architecture and engineering. It is twenty-two stories high, symmetrically proportioned, and rather classical in its outlines. When the electric lights that fringe its lofty spires are turned on at night, they appear as stars twinkling against the black background. The Woman's Christian Temperance Union building, popularly called the Woman's Temple, because it was built by the ladies of that organization from contributions raised in small sums in all parts of the country, is perhaps the handsomest big building in Chicago. Its lines are so gracefully proportioned that its enormous height rarely elicits comment. The beauty of its exterior captivates the eye and takes away the dizzy sensation experienced when contemplating some of the monoliths that have lately been reared along Dearborn Street. The German Opera House, or Schiller Theatre, is one of the most striking buildings of Chicago. The flag that flutters from its staff is almost lost in the clouds. The old Board of Trade building, at the corner of La Salle and Dearborn streets, lately remodeled, presents a front remarkable even in the city of tall buildings. From a seven-story structure of rather inferior design, it has been remodeled into a fourteen-story palace. On account of its immense height, as contrasted with its slim frontage on Dearborn and Adams streets, the Owings building is one of the notable structures of Chicago. Away down on Dearborn Street some bold capitalists have completed the Manhattan

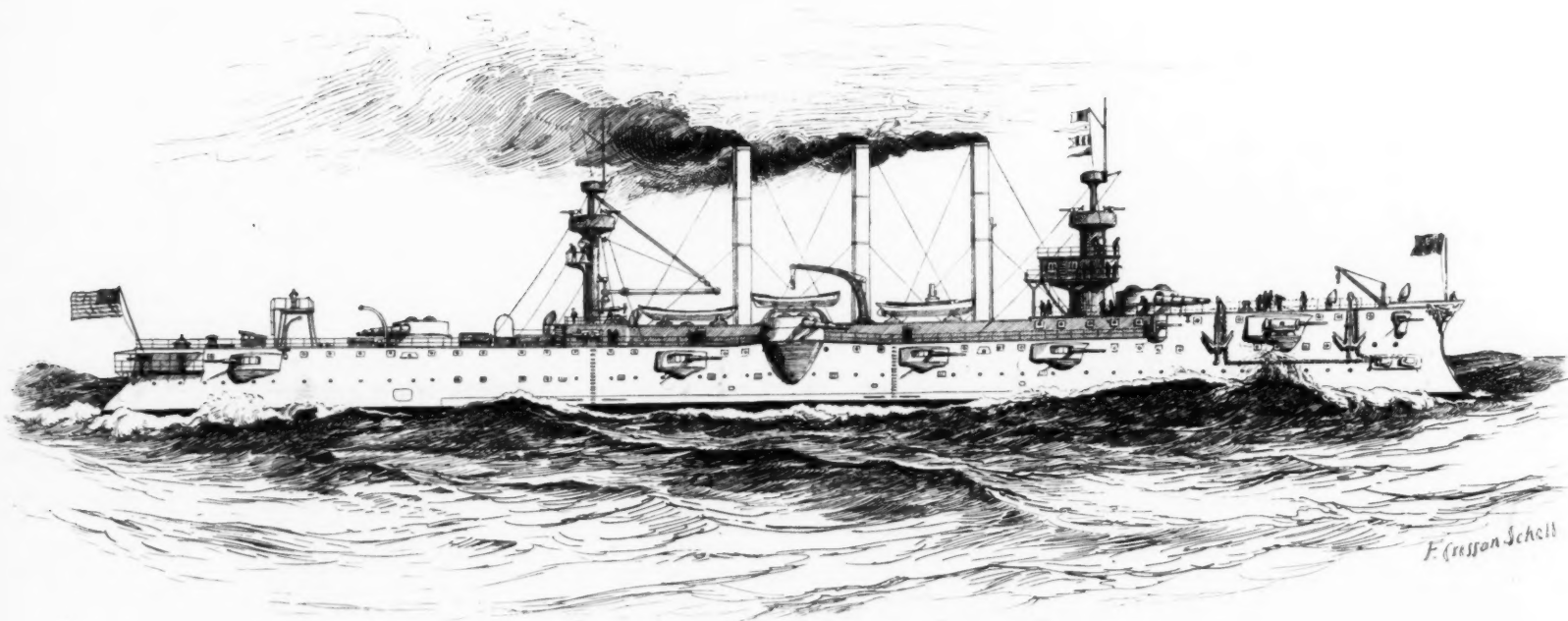


THE INTERCOLLEGIATE CUP.

Block, eighteen stories high. It was thought to be beyond the limits of the business district when projected, but before its walls had reached the fifth story every office was engaged. The Tacoma building, at Madison and La Salle streets, was considered remarkable five years ago. It is overshadowed now by a number of "sky-scrapers" in the same vicinity.

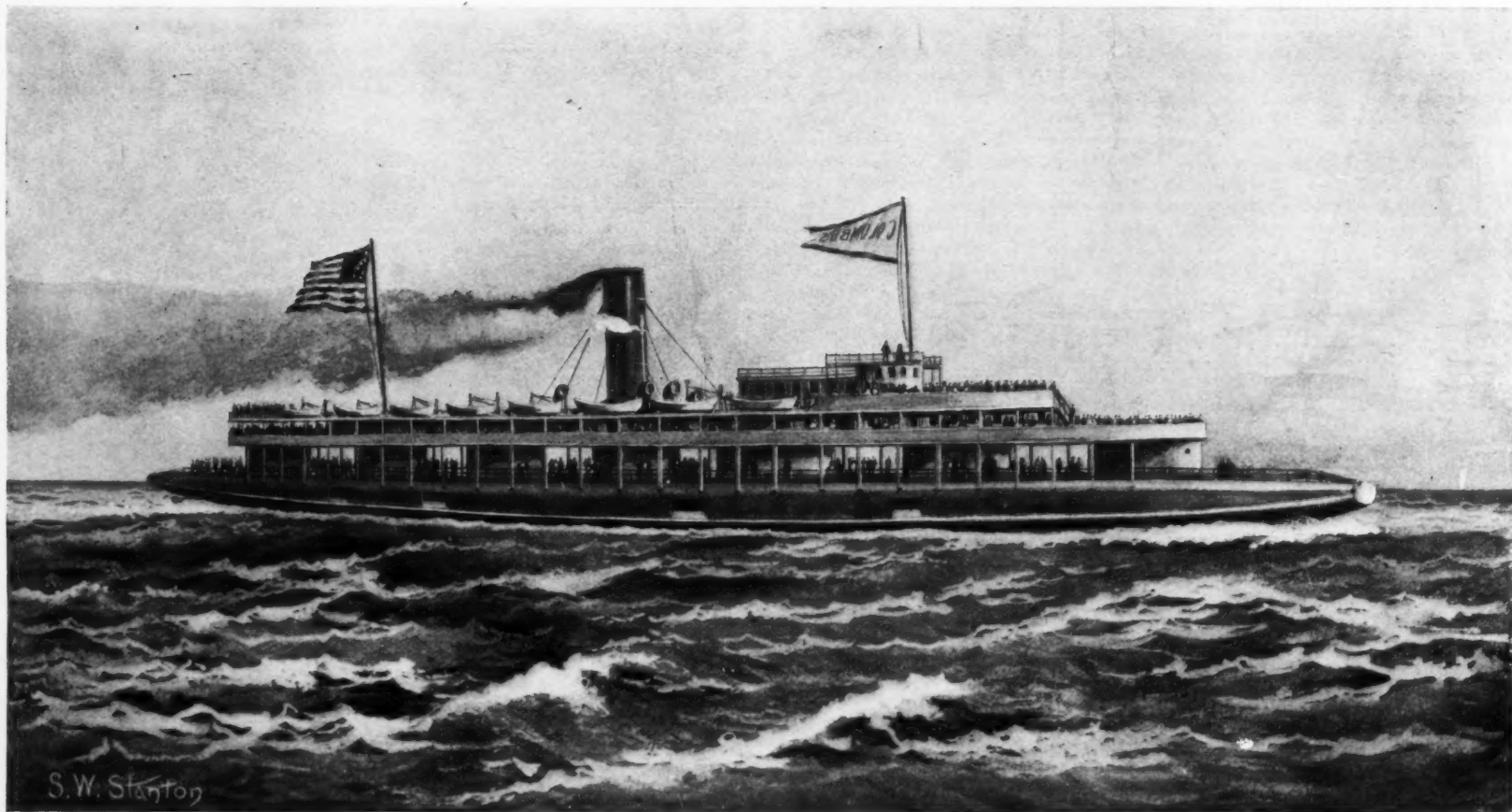


THE SEA-GOING BATTLE-SHIP "IOWA."



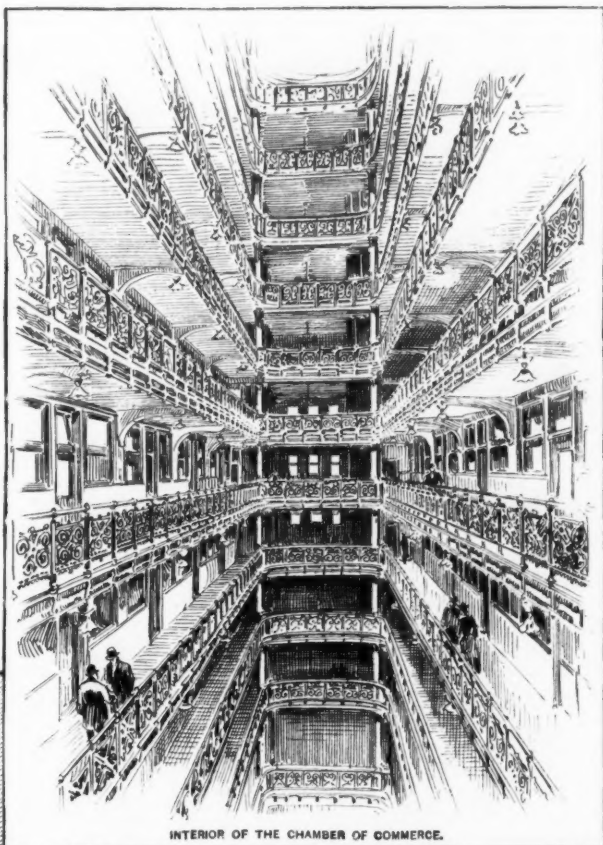
ARMORED CRUISER "BROOKLYN," WITH THE NEW ONE-HUNDRED-FOOT SMOKE-STACKS.—FROM THE OFFICIAL DRAWING.

PROGRESS OF THE NEW NAVY—THE TWO LATEST ADDITIONS.—DRAWN BY F. C. SCHELL.—[SEE ARTICLE ON EDITORIAL PAGE.]

THE WHALEBACK PASSENGER STEAMER "CHRISTOPHER COLUMBUS," THE FIRST VESSEL OF THE KIND EVER PUT AFLOAT.
FROM A DRAWING BY S. W. STANTON.—[SEE PAGE 26.]



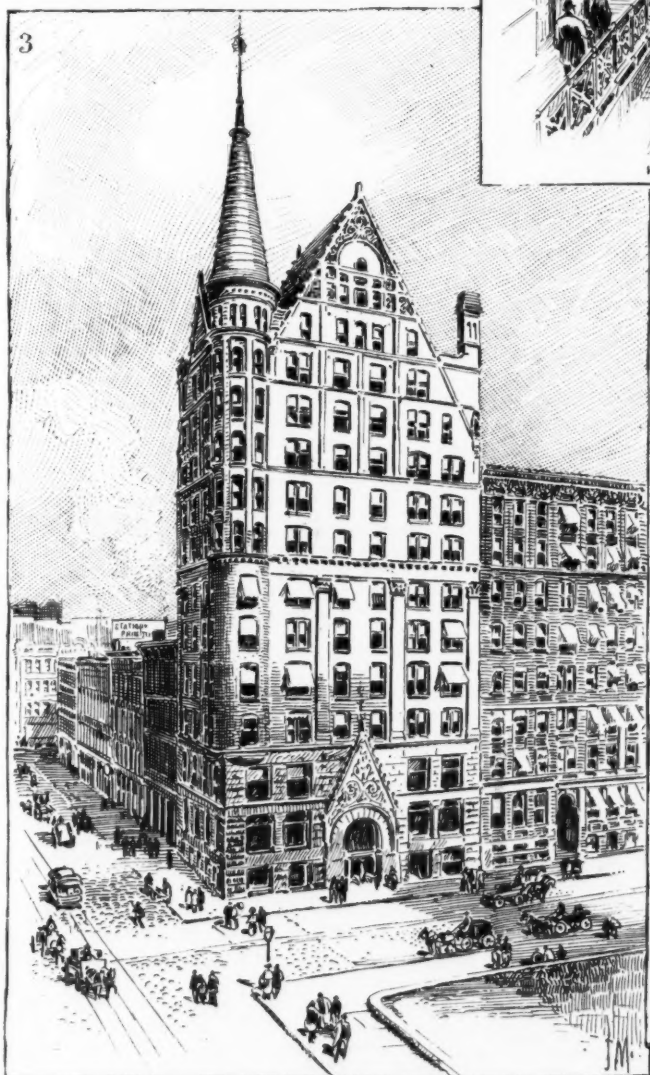
MASONIC TEMPLE, 22 STORIES.



INTERIOR OF THE CHAMBER OF COMMERCE.



GERMAN OPERA HOUSE, OR SCHILLER THEATRE.



THE OWINGS BUILDING.



THE MANHATTAN,
18 STORIES.



THE GREAT NORTHERN HOTEL.



THE WOMAN'S CHRISTIAN TEMPERANCE UNION BUILDING.

THE SKY-SCRAPERS OF CHICAGO.
[SEE ARTICLE ON PAGE 23.]

A VISIT TO THE PLANET MARS.

BY CAMILLE FLAMMARION, OF THE FRENCH ASTRONOMICAL SOCIETY.

[Written expressly for FRANK LESLIE'S WEEKLY.]

THE year 1892 has been exceptionally favorable for observing this neighboring planet. During fourteen years, since the year 1877, Mars has not so closely approached the inhabitants of the earth, and it will not return to the same position before the year 1909. As there is nothing perfect in this universe, even among things celestial, this unusual proximity was somewhat marred by the extremely southern position of this neighboring world, so that it did not rise as high above our horizon as we could have wished to insure perfect clearness of the pictures, and, unfortunately, it is principally in the northern hemisphere of the earth that astronomers labor. Nevertheless, in spite of this unfavorable position, observations have been numerous and valuable.

At one of our leading observatories, for instance, not less than sixty-eight drawings were made between the month of May and the end of October, and I am fortunate to have had as co-laborers students so thoroughly devoted to science and so skillful as on this occasion Messrs. Leon Guiot, Schmoll, Molière, and Quenisset have shown themselves to be. Not only was the gradual melting of polar snows watched from day to day during the entire interesting period of their disappearance beneath the action of the sun, but all the geographical configurations were drawn—seas, continents, coasts, gulfs, straits, islands, lakes, mouths of rivers, canals, etc. It was, it must be confessed, a real pleasure, I had almost said a radiant joy, full of emotion, to see each night this celestial globe turn before our eyes, borne onward by its rotary movement, and showing us successively the lands for which it is always mid-day, or on which the sun rises and sets; causing them to pass before us like a panorama in twenty-four hours also—truly a companion to the earth, with oceans, seacoasts, immense plains, all the details of its surface visible; and, above all, an atmosphere pure and without clouds, for it is almost always clear with our neighbors in the sky.

There are few doubts in general among the public of the precision attained by the science of astronomy in what concerns certain very interesting points in the study of other worlds. Thus, for instance, the rotation of Mars on its axis has just been mentioned, a diurnal movement to which this globe owes, as does our own, the succession of the days and nights. Very well; the length of this rotation has been determined with a precision as complete as has the terrestrial rotation, and perhaps with a care still more scrupulous. In fact, it is habitually said that the earth rotates in twenty-four hours, and all the world believes it, because civil life is regulated by the apparent movement of the sun. But, as a fact, the rotation of the earth occupies 23 hours and 56 minutes, as every one is aware of, but without thinking of it. Or, who troubles himself to know if this is exact to the second? No one, unless it may be a few sifters of trifles. These know that the rotation of the earth is accomplished in 23 hours, 56 minutes, and 4 seconds. But do they go further? Do they ask themselves the figure with greater minuteness still, to the tenth of a second, the hundredth of a second? Assuredly not. However, for Mars we have not been satisfied before being sure to the hundredth part of a second. The Martian rotation is made in 24 hours, 37 minutes, 22 seconds and 65 one-hundredths, no more and no less.

It is with the same exactness that the year of the inhabitants of Mars has been determined. It is 686 days, 23 hours, 30 minutes, and 41 seconds long. The conscience of astronomers is not elastic. It is possible to assert, without injuring any one, that there is not in the entire community a single merchant, a single man occupied in either public or private business, a single administrator, even in the public service, who is worthy, from the point of view of appreciating the value of numbers, to unloose the sandals of the most humble calculator in an observatory. Certainly no one studies the subject so closely.

When we state that on Mars the years and seasons are nearly twice as long as ours, no one has the right to suppose that there can be in this assertion a grain of fancy.

It is the same thing if we speak of the weight of this planet. In representing the weight of the earth by the number 1,000, that of Mars is

represented by 105; and as our planet weighs 5,875 sextillions of kilograms, Mars weighs 617. Its diameter is, by nearly one half, shorter than that of the earth; it measures 6,753 kilometres. Its surface is estimated at 143,000,000 of square kilometres, of which 66 are sea and 77 continents; the habitable surface being about six times larger than that of Europe. It is, in faith, a pretty kingdom.

It is not necessary to journey to Mars to know what is the intensity of weight on the surface of this planet. A terrestrial kilogram, or 1,000 grams, carried thither would only weigh 376 grams; a man weighing seventy kilograms here would there only weigh twenty-six. A body which on the earth in falling drops four metres and ninety centimetres in the first second of its fall, would on Mars only drop one metre and eighty-four centimetres in the same degree of time. A would-be suicide, flinging himself from a height, would have ample time to think during his descent, and probably would seldom succeed in his design.

These are precise facts which indicate to us conditions of existence quite different from our own. The light and heat received from the sun are there lesser than here, Mars being further from the sun than we in the proportion of 100 to 43. It should be colder there than on the earth. Besides weight being lighter on the surface of Mars, and this planet being older than ours, its atmosphere should be less dense—a fact which is confirmed by all observations—and similar to that which envelops the snowy heights of the most lofty mountains of the earth. All these conditions united should make of Mars a world perpetually frozen. This, however, is not the case. On this world water, snow, and ice are to be seen; not, however, any more snow or ice than here, but rather less. The polar snows of Mars are so perfectly visible, so clear and distinct, that it is possible to measure the area covered with certainty; in fact, this was done more than a century ago. The first observations on this subject were made by Huygens in 1672; the snows were first measured by William Herschel in 1781, since when astronomers have followed almost constantly their varying extent, as the planet Mars presents itself every two years in such an attitude that for about six months' space it may be studied, and one after the other its two hemispheres indicate to the observer's eye the varying succession of autumn, winter, spring, and summer. And here is something impossible to an observer of the earth itself. No one has ever seen the poles of our globe; on this point science is incomparably further advanced in knowledge of Mars than of our own planet.

This year no subject was more full of interest to the student than this one. The southern pole of Mars was lightly inclined toward us. From day to day, so to speak, the snows were seen to diminish. In May and June they were widely extended for about twenty degrees from the pole to the seventieth degree of latitude. If on a terrestrial globe we follow the seventieth degree of latitude in the northern hemisphere—which is the best known—we will see that this parallel crosses Siberia in the northern portion, includes Nova Zembla, cuts through Cape North near Hammerfest, crosses Greenland, Baffin's Bay, the Arctic Archipelago, and the northern edge of Alaska. These regions on Mars were then passing the spring equinox, which takes place there the 20th of May. Consequently this date corresponds with our 20th of March. At this season the northern regions of the earth are still covered with snow, and, seen from a distance, would present identically the same appearance as did Mars.

But here is where begins a difference in which Mars has the advantage.

For the inhabitants of that globe the southern summer solstice occurred the 13th of October last. Very well; at that date nearly all the polar snow had melted, and now there is scarcely any to be seen. This almost total melting of the snow never occurs on our planet. In whatever season it may be, in the midst of the most ardent heat of summer, an impassable barrier of ice has always proved an insurmountable difficulty in the paths of explorers, at either the northern or the southern pole.

On Mars the snows are so thoroughly melted that the geographical pole is to be seen entirely. What is left of the snow is not at the pole, but

at one side, distant about five degrees—that is to say, at the eighty-fifth degree of latitude and near the thirtieth degree of longitude.

The melting of the polar snow shows, first, that from a climatic point of view Mars is not a frozen world, as has been claimed, and that the famous canals are not crevasses in an immense glacier. All observation proves the contrary, since the snows of Mars melt more thoroughly than the snows of the earth.

Is this because the heat is greater than here? First it may be said that the seasons extend through a period of time almost twice as long as do ours. The snow is exposed nearly twice as long to the rays of the sun. The inclination of the axis is very nearly the same as that of the earth (24° 52'); on this score there is no difference perceptible. But it may be possible that the snow is less deep, and perhaps the water is, chemically speaking, not of the same composition as ours. Besides, the atmosphere being less dense, evaporation would take place quickly. For all these reasons this melting of the snow may perhaps not prove the thermometric degree to be higher than here, but it proves still less that the cold is more extreme.

According to spectroscopic experiment there is a large amount of vapor in the atmosphere of Mars. If the cold were intense this vapor should condense and become fog and clouds, and the sky should be generally more or less covered. Quite the contrary is, however, observed. It is almost always clear in those distant lands, about as on the earth in Egypt and Greece, and very nearly as in the Desert of Sahara. Clouds, fogs, and mists are scarcely ever visible. The geographical details of the planet show themselves to the earthly observer with great clearness and distinctness, which certainly could seldom happen in the case of the earth seen from a distance. For—especially in northern climates—more than half the time clouds are present, and even when our atmosphere is without clouds it is so thick as to absorb almost half of the sun's rays before they reach us, and the picture of the earth reflected into space is partly absorbed by this same atmosphere and is never clear and detailed. It is quite possible to infer that, since on Mars the atmosphere remains almost always pure, although containing considerable water vapor, it is not very cold.

The rays of the sun probably reach the surface of the soil or the seas without being absorbed, warm this surface more completely than the earth is warmed, and are not lost afterward by radiation, since the transparent water vapor which had allowed the luminous rays of the sun to pass for the purpose of warming the soil opposes the passage of rays without light. One molecule of invisible water vapor is sixteen thousand times more powerful than one molecule of dry air. Perhaps, also, there are in the atmosphere of Mars other vapors, perfumes, increasing still more the caloric influence. It is known, for instance, that if flowers do not freeze in the cold of a frosty night it is because they know how to envelop themselves in an aureole of protecting perfume.

From all these probabilities results the fact that, as a habitable world, the conditions of Mars cannot be so very different from those of our own sphere, but that we may suppose it the home of species of vegetables, animals, and human beings, not identical with those which exist here, assuredly, but offering, nevertheless, certain analogies with the things of earth. A moment ago we stated that the density of bodies there is less, weight there weaker, the air thinner, and without doubt the barometer would stand at thirty centimetres instead of seventy-six. But the temperature ought not to be very different, the duration of the day and of the night is similar to those we know, the years are longer, as are also the seasons, and the atmosphere is certainly more calm, as there are there scarcely any clouds or rains or winds or tempests. Further, the continents ought to be level, since immense rectilinear canals cross them in every direction, and extensive inundations have been already observed along certain coasts. The beings, whatever they may be, that can exist there ought to be light, differently constituted from ourselves, and without doubt larger.

Much has been said concerning signals since one of the readers of recent planetary studies bequeathed to the Académie de Paris one hundred thousand francs to revert to the ingenious scientist who should find means to enter into communication with this neighboring world. It has even been said that the geographical network of rectilinear canals, which are traced across the continents with so much regularity, might be an attempt on the part of the Martians to communicate with us. This was going a little too far, as also when similar explanations were offered to explain luminous points visible in certain regions, due doubtless to the reflection of the light of the sun from snowy heights or from clouds. However, it must be admitted that these famous canals of Mars offer us a very pretty problem.

Hypotheses are not wanting to explain them, but not one is completely satisfactory. Everything points to the fact that they are lines of water measuring more than a hundred kilometres in width and several thousand in length, bringing the seas into communication, intersecting one another at different angles, and crossing in every direction. There are but two explanations which it is possible to retain. Either these are crevasses, fissures in straight lines and intercrossed, produced in the soil by natural forces, or they are old rivers straightened out and completed by the inhabitants for the purpose of systematically distributing water over the surface of the continents.

The first explanation seems the more simple. But the appearance of these geometrical figures, rectilinear, as though intentionally so, does not plead in its favor, for they do not seem in the least natural.

There is nothing similar on the earth. We may suppose, however, that there are existing there natural forces unknown to us.

The second hypothesis is a little more bold, but it seems as though we here might be in the position of observers who, examining Europe or America from such distance as is the moon or Venus, insisted on explaining the tracks of railroads by the theory of natural forces; it is easy to see they would be wasting their time. In fact, the second hypothesis of the origin of these tracings presents itself to the mind in such manner that we cannot oppose it, and it is not unscientific, given that the actual conditions are in favor of the habitability of this neighboring world. Besides, the mouths of the principal of these canals are so formed as to be easily mistaken for the mouths of rivers, as has already been remarked by Proctor, but, however, they are not rivers, since not one has its source in *terra firma*. Mars is older than the earth and smaller, and has passed more quickly through the phases of its astral life. It represents what our globe could become in a few millions of years. Works which appear to us gigantic will be as child's play to the human beings of the future. With centuries mountains will descend into the sea, the globe will level itself, and the water will diminish in quantity because of internal infiltration. There is already much less water on Mars than here, and its seas do not appear to be very deep, for it often seems possible to see the very bottoms. Clouds and rains are infrequent. There is nothing unreasonable in thinking that the efforts of an advanced civilization have sought a fertilizing division of the waters becoming rare on the surface of the old continents.

We already know many things about Mars, but we are far from knowing all. Each period of observation brings new discoveries, due to the increasing perfection of optical instruments and the zeal of the astronomers. This year the researches made in American observatories have been particularly remarkable. At Peru Mr. Pickering saw the snows of Mars accumulate between two chains of mountains not far from the southern pole, and on the fifth of August snow fell on the mountains of the equator. But it melted immediately and by the seventh had disappeared. He also discovered open lakes connected by canals, and describes yellow, transparent clouds. This same observer notes that the enormous quantity of melted polar snow, which would flow almost unnoticed into our immense oceans, ought to produce extensive floods upon Mars, and he observed these floods during the month of July last. At the observatory at Mount Hamilton, Messrs. Holden, Campbell, and Hussey noticed anew brilliant points on the edges of the planet which they attribute to clouds. Mr. Barnard drew designs of the polar ices, sloping and half melted, just before their liquefaction, which was extensive at the end of August. He believes also that a great displacement of water occurred from the poles to the equator. Everything points to the fact of a world in a prodigious state of physical activity. But alas! we still see it from too great a distance. It has just passed, distant 56,000,000 of kilometres; enlarging it by 1,000 brought it then to 5,600,000, but it is still a little too far off to distinguish all that takes place there. Let us not, however, doubt for a moment the occurrence there of events quite as interesting as are the grandeur and miseries of our own terrestrial humanity. The earth is but an ephemeral mote in a life which is universal and eternal.

PARIS, November 16th, 1892.

[EDITOR'S NOTE.—A kilogram is 2.2046 pounds avoirdupois. A kilometre is 3280.8 feet.]

WHALEBACK PASSENGER STEAMERS.

THE whaleback type of vessel promises to occupy a permanent place in steamship structure. It is now four years since the first vessel of this description was constructed, and already twenty-eight are in use. All of these are exclusively for the transportation of freight. Recently there was launched at West Superior, Wisconsin, the *Christopher Columbus*, the first whaleback passenger steamer, which is likely to be followed by others of similar construction.

This vessel, of which we give an illustration on another page, is almost as radical a departure from any existing type as the whaleback was from the old style of vessels. This vessel is constructed entirely of steel, and is 362 feet long over all, 42 feet beam, and 24 feet deep. Heretofore whaleback steamers have had but two turrets, but the *Christopher Columbus* will have seven in all, elliptical in shape, rising seven and one-half feet above the main deck. The vessel is built to carry passengers from Chicago to the World's Fair grounds, a distance of between six and seven miles. She will have accommodations for nearly five thousand passengers and will be propelled at a speed of twenty miles an hour by a single screw fourteen feet in diameter. The saloon proper is 225 feet long by 30 feet wide. The decorations of the saloon are in excellent taste, one feature being a marble and glass fountain, with a glass tank filled with water containing the various kinds of fishes found in the Great Lakes. Amidships are dining and refreshment tables and booths, and forward are situated the kitchen, mess-room, engineer's quarters, and crew space. Over the saloon is the promenade deck, 257 feet long, in the centre of which is a skylight 15 feet in width, and extending a distance of 138 feet, with a large glass dome over the after stairway.

The *Christopher Columbus*, being the first whaleback passenger vessel ever put afloat, will no doubt attract much attention from visitors to the Columbian Exposition.

THE RECENT UNIVERSITY EXTENSION CONFERENCE.

THE Second National Conference on University Extension, which held its sessions in Philadelphia during the last week in December, calls public attention afresh to a movement, the growth of which was declared by the late George William Curtis to be the most significant fact in the history of modern education. Mr. Curtis spoke at a time when this system had hardly had a year's trial in the United States. Within those twelve months, however, the society formed by Provost Pepper, of the University of Pennsylvania, had developed a thoroughly national organization.

America has offered more than one object-lesson to the educational world, but none more impressive than the devotion of its people to genuine culture. In the lines of higher education, enlightened generosity, well-directed benefactions have been not the exception but the rule, and among the examples of these, the history of extension teaching may well be cited. This system, which by itinerant lecturers from the university offers to the most isolated town or village many of the advantages of academic residence and study, found early favor among the leading citizens of Philadelphia. Charles C. Harrison, Talcott Williams, Justus C. Strawberry, John S. MacIntosh, and Frederick B. Miles are but single instances of the hold which the work secured on the prominent manufacturers, lawyers, merchants, clergymen, and journalists of the Quaker City. Time, money, and self-sacrificing energy on the part of busy men tell the secret of the success achieved. In the winter of 1890-91, over a score of centres of university teaching were formed in Philadelphia and its suburbs, nearly half a hundred lecture-courses were delivered to an average attendance of nearly ten thousand people, and university extension had met its first successful trial in the United States.

Such results attracted widespread attention, and, in answer to many demands, led to a change in the organization of the society to enable it to fill a wider rôle. The American Society for the Extension of University Teaching was the natural outgrowth of these conditions. Its aim is to advance the interests of this movement by its publications, its organizing and lecturing staff, its training-school for extension workers, and by the actual teaching which it is now carrying on through half a hundred "centres" in the middle Eastern States. Its lecturers are drawn from the faculties of Yale, Princeton, the University of Pennsylvania, and other well-known institutions, and with it are now co-operating nearly three score American colleges.

In 1891-92, university extension was established in connection with universities in not less than twenty States, all of which were represented at the first national conference, held in Philadelphia in December, 1891. Professor Edmund J. James, of the Wharton School of Finance and Economy, and president of the American Society, had given personal aid in the formation of centres at many points in the United States and Canada, and the excellent organization of the society had assisted the efforts of other prominent workers. Secretary Melvil Dewey, of New York; Professor W. H. Munro, of Brown; President Charles F. Thwing, of Western Reserve; President John M. Coulter, of the Indiana University, joined this year a work with which the names of President Dwight, of Yale; President Low, of Columbia, and President Patton, of Princeton, were already connected.

The recent conference in Philadelphia emphasizes still further the possibilities of the movement and the earnest purpose of its friends. From the opening address of President Henry Wade Rogers, of Northwestern, to the final



HENRY WADE ROGERS.

stirring words of the veteran Cambridge lecturer, Dr. Richard G. Moulton, the sessions were marked by quiet discussion of the experience of the past year, which seemed to all present to indicate that the trial state was passed, and that university extension will be recognized henceforth as a permanent force in American education. The testimony of such experienced lecturers as Professor W. H. Mace, of Syracuse; Professor George E. Fellows, of Indiana, and Staff Lecturers Rolfe and Devine, of the American Society, gave additional proof of the demand for a well-conducted system of adult education and of the new field of usefulness which is thus opened to our American colleges. The report of General Secretary George F. James, to whom is due the credit of arranging the two most successful conferences which have so far been held on the subject of university extension, shows the added growth of extension teaching, especially through the new State societies of Connecticut and Ohio, the extension departments of the Chicago and Wisconsin universities, and the group of colleges united for this purpose in the Chicago society. Even beyond the Mississippi the work has spread through the active favor of the State universities of Iowa, Kansas, Colorado, Wyoming, and California.

History is made rapidly in the New World. Two years is none the less a short period for attaining such results. That permanent form has been reached in extension work is not probable, is hardly to be desired. The earnest student of educational problems, and all friends of popular institutions will follow with the greater pleasure a movement so plastic as to be adapted readily to varying conditions, and so organized as to promise increase of efficiency to every force which tends to higher education.

TEMPESTUOUS OCEAN WEATHER.

ALL the ocean steamships which came into port during the last week in December presented evidences of having encountered unusually tempestuous weather. Nearly all of them had weathered gales of extraordinary violence. The *City of Berlin* encountered gale after gale from the time she left Queenstown until she sighted Fire Island. She was swept by tremendous seas which washed overboard everything movable. The weather was so severe that the men had to be relieved at short intervals, and the ice is said to have frozen as it struck her sides.

The North German Lloyd steamship *Saale* had a like terrible experience. Her captain reports that the hurricanes which struck her were the fiercest he had ever known, and that he had never seen the equal of the roaring surges that coiled again and again over the decks. All of one terrible night the ship fairly wallowed before the storm, with decks drowned at frequent intervals by the mighty seas. Three of her boats were carried away, and the cold was so intense that the men on lookout narrowly escaped freezing to death. When the ship came into port she resembled an immense iceberg. Her hull was incased in an armor of ice almost a foot thick, and rigging and spars were frosted over with an icy coating. The lower rigging of the foremast, the bridge, and upper works were incrustated with great masses of ice, and festoons of frozen spray hung in glittering pendants from the ratlines and foot-ropes.

The *Laurestina*, a British tramp steamship, also reported storms of unprecedented fury. Her three compasses, the big standard and the two steering compasses, were frozen solid and rendered useless. Her shrouds and ropes and masts and decks and prow were hidden in ice. The forward mast especially was thickly coated with it, the ice rising from the bow to the top of the mast like a great hill. The only thing on the whole ship which had no ice on it was the funnel, which rose black and gloomy out of the

dazzling whiteness. Many other vessels reported like experiences.

SOME PERSONAGES OF THE PANAMA SCANDAL.

OUR illustrations on page 29 comprise a number of portraits of persons whose names, having been more or less familiar to the world for years, are now conspicuous in the public prints through their common unfortunate implication in the affairs of the Panama Canal enterprise, now undergoing sensational exposure. Among the directors summoned to appear and answer to criminal charges is M. Eiffel, the famous engineer, constructor of the iron tower bearing his name, builder of steel bridges, and designer of the locks for the Panama Canal. The penalty for the offense charged against these directors, and M. de Lesseps himself, should they be convicted, is one year's imprisonment at least, or five years at most, with a fine anywhere from one hundred to three thousand francs. The convicted man may also be deprived of civil rights for a term of years after he leaves prison; and he is forbidden to vote at elections, to carry arms, or to act as guardian. Accomplices are liable to the same penalties.

Dr. Cornelius Herz, the eminent electrician and inventor, whose name is so intimately associated with the current revelations, is an American citizen, although born in the Jura district of France, and of German-Israelite descent. His parents came to this country when he was an infant, but he returned to Europe as a student, and in 1870 joined the French army and served throughout the war. Returning to the United States in 1871, he set up as a physician, continuing his electrical studies and experiments in the meantime. Subsequently he went to San Francisco, and became the pioneer of modern electrical work on the Pacific coast. Returning to Paris, he introduced practical electric lighting there, and organized the International Electrical Exhibition of 1881. He was an intimate friend of General Boulanger, and when the latter was War Minister the two formed, with M. Garnet, the Minister of Posts and Telegraphs, a powerful triumvirate of electrical progress. Dr. Herz occupied a noble mansion on the Avenue Kleber, where he has one of the best private art collections in Paris. He is at present sojourning in London.

M. Clemenceau, the well-known politician, and editor of *La Justice*—who has also had an American career—is among the accused Deputies. His bloodless duel with Paul Deroulède, December 22d, was the outcome of the latter's charge that he (Clemenceau) had, in his dealings with Herz and others, "sold France to foreigners."

M. Louis Andrieux, ex-chief of police, and later Deputy and "revisionist" agitator, has been conspicuous in his efforts to aggravate the



M. LOUIS ANDRIEUX.

trouble and to discredit the existing government before the country. He was, naturally, more or less in the confidence of such men as Reinach, Arton, Cottu, and Herz; and now he is using with disturbing effect the entire fund, apparently, of information, good, bad and indifferent, which he obtained in his official capacities. On the 22d ult., Premier Ribot, in a notable speech, referred to recent utterances of Andrieux as "the work of a diplomat who was sowing disorder." Andrieux sent him a challenge to a duel, which the Premier refused to accept.

M. Ribot, present Premier, is among the most prominent of French parliamentarians, and is married to an American lady, a daughter of the late Isaac N. Burch, of Chicago. He has been Minister of Foreign Affairs in two former Cabinets. Premier Ribot has retained in his Cabinet M. de Freycinet, who is unquestionably a thoroughly capable Minister of War. There can be no doubt that the Premier and President Carnot have within the past month, by their honesty

and courage, so far rehabilitated themselves with the public and the Chamber, that the crisis may be regarded as past.

ROUND THE WORLD ON BICYCLES.

THE illustration on page 28 gives an accurate picture, taken in Peking, China, of two daring young Americans, as they appeared in the city of Peking, on November 3d last, after the completion of one of the most remarkable journeys of modern times.

Mr. W. L. Sachteleben, the dark-faced young man on the right of the picture, is from Alton, Illinois; his companion, Thomas G. Allen, Jr., is from Ferguson, Missouri. Two and one-half years ago, these two adventurous bicyclists determined on the trip which has just been successfully accomplished. It was nothing less than a bicycling journey around the world. Their "wheeling" journey really commenced in London. After three months spent in touring through the British Isles they crossed to Calais and journeyed leisurely through France, Spain, and Italy on their machines. Thence by steamer to historic Greece, and thence to Constantinople. Here began the gigantic trip across Asia from Constantinople to Peking. It is a most daring undertaking, under any circumstances, but on bicycles and unaccompanied by guide, servant or interpreter, the chances seemed a thousand to one against success. With true American grit, however, they overcame every difficulty. They carried with them, as shown in the picture, two small American flags, and they can safely boast of having shown the national colors in many lands and cities where they were never known before.

From Constantinople, these two intrepid wheelmen went through Turkey, Persia, Turkistan, Ili, the Desert of Gobi, and the Chinese provinces of Kansuh, Shensi, Shansi, and Chihli. They visited, on their way, Mt. Ararat, which they ascended. Among other famous cities, they passed Teheran, Bokhara, Samarcand, Kuldja, Lan-choo, Sianfu, Taiyuanfu, Paoingfu, and Peking. The record of distances wheeled will give some idea of the magnitude of their journey. Through Asia Minor they traversed 1,035½ miles; through Persia, 1,351½ miles; Turkistan, 1,131 miles; China (Kuldja to Peking) 3,116 miles. Most of these distances were measured by cyclometer. From Peking they went to Shanghai, and then to Nagasaki and Yokohama, whence they sailed for Vancouver, where they arrived during Christmas week.

It is easy to speak of such a journey and easy to write about it, but it is difficult to conceive of the dangers, hardships, and fatigue undergone. The story of their adventures and privations would fill a volume. Too much admiration cannot be given to the courage and determination which brought them safely through.

HENRI MARTEAU, THE VIOLINIST.

HENRI MARTEAU, the young French violinist, comes of a musical family. He was born in Rheims, France, in 1874, his father being an amateur violinist and president of the Philharmonic Society of Rheims, and his mother a very talented pianiste, pupil of Clara Schumann. When Marteau was but five years of age Sivioli once visited the family, and so charmed was the boy that he requested his mother to permit him to become an artist. The next day Sivioli himself selected a little violin which he presented to young Marteau. From that day he began to study with Herr Bunzl, a Swiss violin teacher, pupil of Molique, and after three years' tuition with him his parents took him to Paris, where he began his studies under the famous Leonard, who took a great liking to the boy. In April, 1884 (then ten years of age) he made his *début* before an audience of 2,500 persons in Rheims, performing, with grand orchestra, Leonard's violin concerto No. 5, and receiving a veritable ovation. Since that period he has performed in Paris, London, Vienna, Berlin, and Dresden with unquestioned success. On extraordinary occasions Leonard (Marteau's teacher) permitted his young pupil to perform on an old Italian violin which Leonard prized highly, and upon his death Marteau became the possessor of this fine instrument. Gounod took a veritable interest in Marteau, selecting him to perform the violin obligato in a piece composed expressly for the Joan of Arc Centenary at Rheims in 1885, and which Gounod dedicated to Marteau.

In the summer of 1892 Marteau obtained the first prize at the Paris conservatory amid the vociferous applause of the public and the delight of Ambrose Thomas, Jules Massenet, Theodore Dubois and other eminent musicians on the jury. His American tour will be under the direction of Rudolph Aronson and Major J. B. Pond, and will begin under Anton Seidl's conductorship.



PRESIDENT EDMUND J. JAMES.



W. L. SACHTELEBEN AND THOMAS G. ALLEN, WHO HAVE JUST COMPLETED A BICYCLE TOUR AROUND THE WORLD.—FROM A PHOTOGRAPH TAKEN IN PEKING, CHINA.—[SEE PAGE 27.]



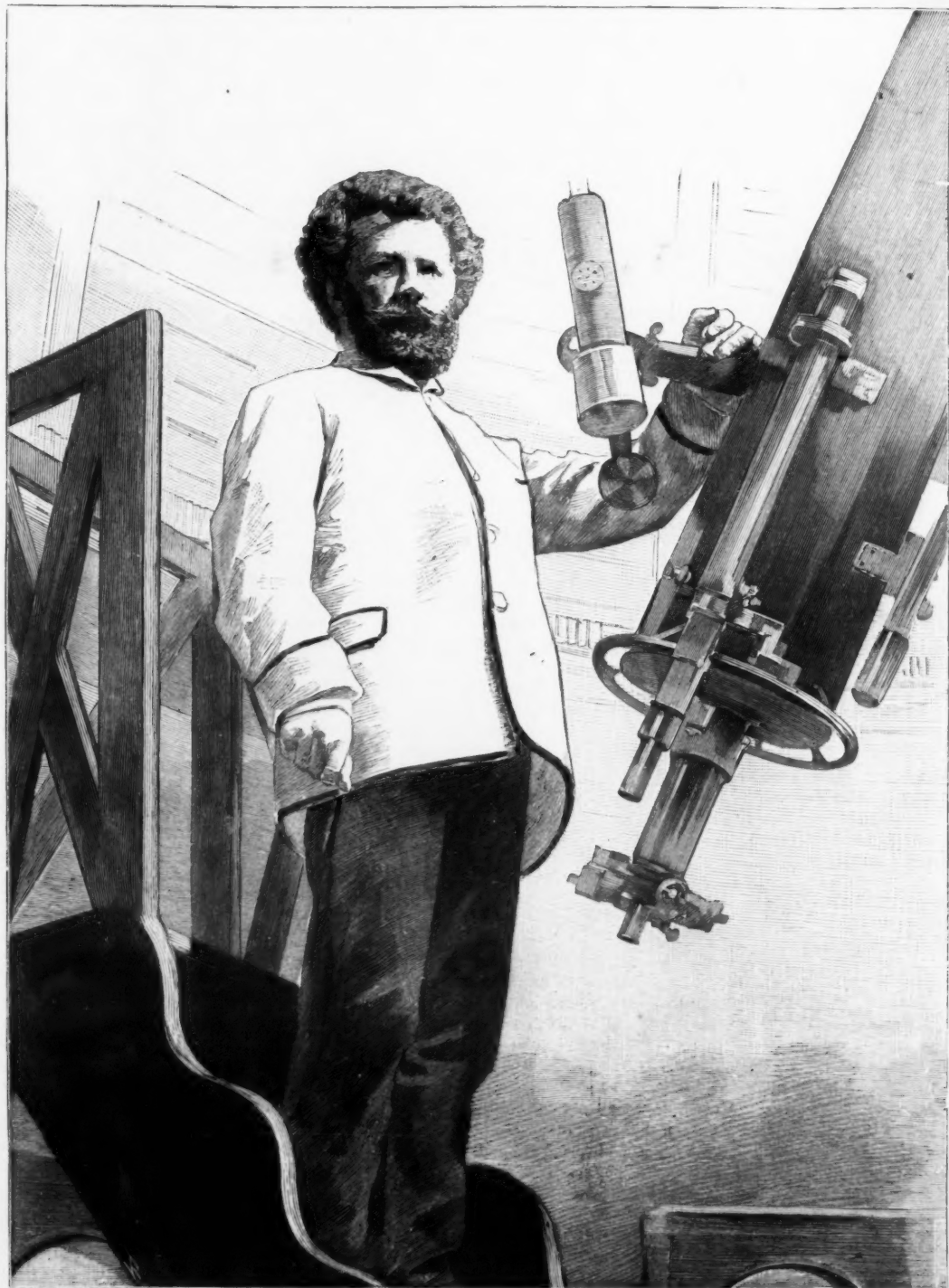
THE BOHEMIAN GIRL-TWINS, ROSA AND JOSEPHA BLAZEK.

HUMAN MONSTROSITIES.

SINCE the death of the Siamese Twins (Chang and Eng) in 1874, there has not been a monster causing such a sensation as the Bohemian girl-twins, Rosa and Josepha Blazek, now on exhibition in various European cities. They were born at Skreyhow, in Bohemia, fifteen years ago. The French show-manager Forbé acquired the right to exhibit the rare twins, and after introducing them at the Théâtre Imperial de la Taité at Paris to the public in general, he fills now an engagement at Perll's Orpheum in Vienna. As he proposes to visit America, and especially New York, very soon, we give a brief sketch of the twins.

Rosa and Josepha, as shown in our illustration, are, considering their age, not very well developed, being of a weak constitution, with dark hair and complexion. The two faces are very much alike and do not show in the least their Bohemian origin.

On the first view it seems as if the two girls were normally
(Continued on page 30.)



Camille Flammarion

THE FAMOUS FRENCH ASTRONOMER, WHO CONTRIBUTES IN THIS ISSUE, ON PAGE 26, A STRIKING ARTICLE ON "A VISIT TO MARS."



HENRI MARTEAU, THE YOUNG FRENCH VIOLINIST
[SEE PAGE 27.]



M. CORNELIUS HERZ



M. CHARLES FLOQUET.



M. EIFFEL, THE FAMOUS ENGINEER.



M. DELAHAYE, THE PROSECUTOR.



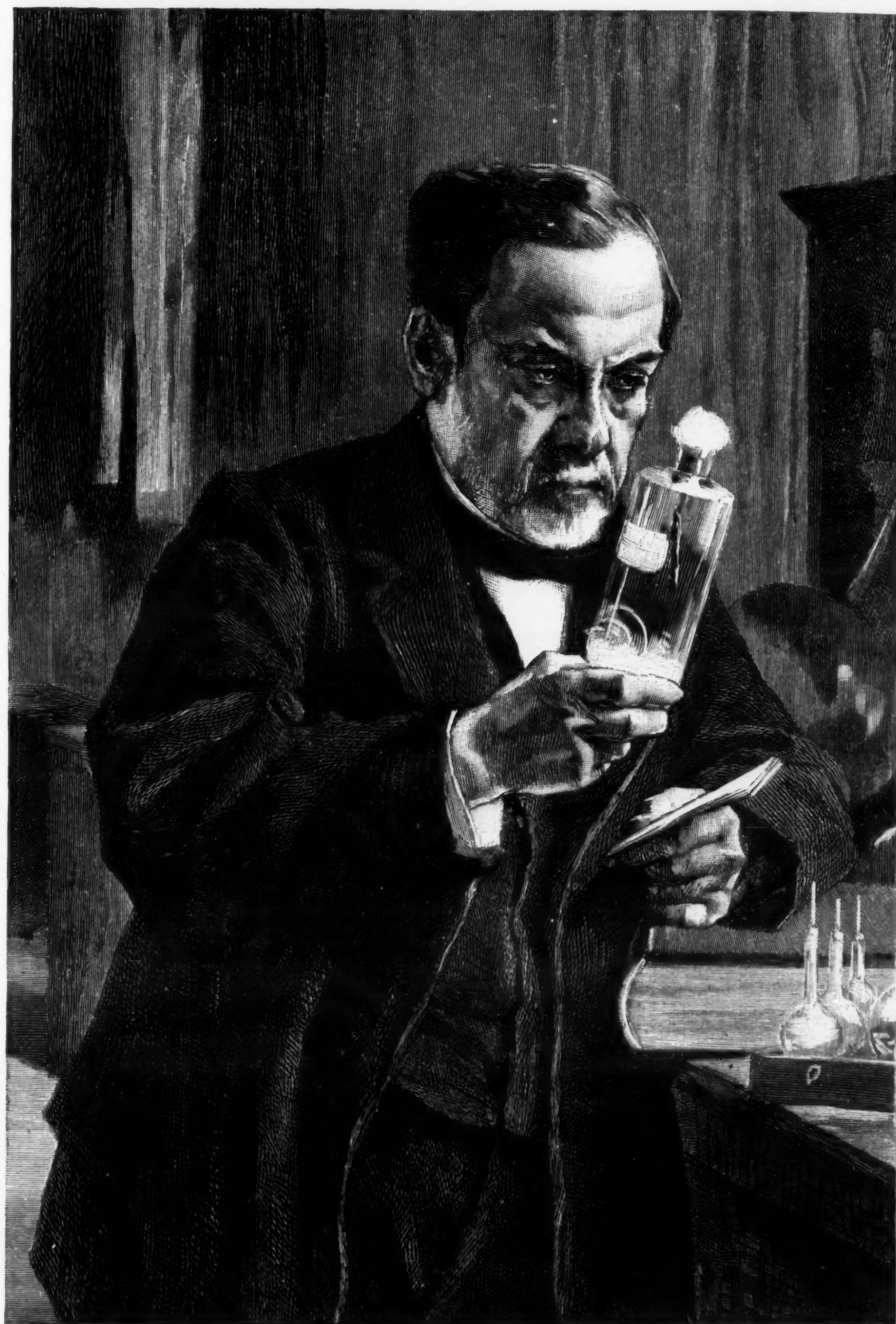
SIGNOR ARTON.



M. RIBOT, PREMIER.



M. CLEMENCEAU.



M. PASTEUR, THE FRENCH CHEMIST AND BIOLOGIST, WHO RECENTLY CELEBRATED HIS SEVENTIETH BIRTHDAY.—[SEE EDITORIAL PAGE.]

THE PANAMA CANAL SCANDAL—PORTRAITS OF SOME OF THE PERSONS IMPLICATED IN IT, AND OF M. RIBOT, THE COURAGEOUS HEAD OF THE MINISTRY.—[SEE PAGE 27.]

HUMAN MONSTROSITIES.

(Continued from page 28.)

developed entirely, and only grown together below the hips, but a closer inspection shows that this is not the case, but the two busts rest on only one basin and four feet, and that the backbone of the children is connected with the rump-bone. A separation of the two beings, as would have been practicable with the Siamese Twins, by a surgical operation is therefore absolutely impossible, and as soon as one of the unfortunates dies the other one will necessarily share her fate.

G. GESSMAN.

"THERE'S a time to work and a time to play," but to the hand-organ grinder both times come at once.—*Rochester Democrat.*

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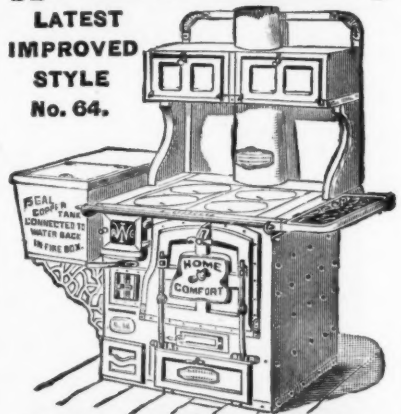
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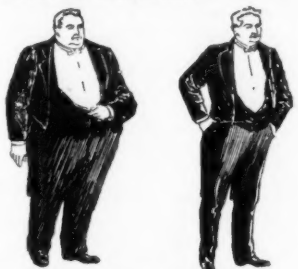
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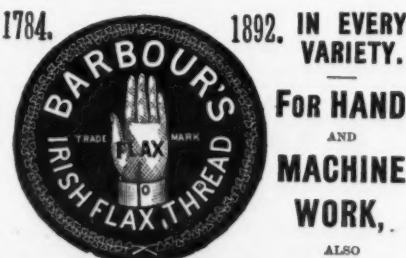
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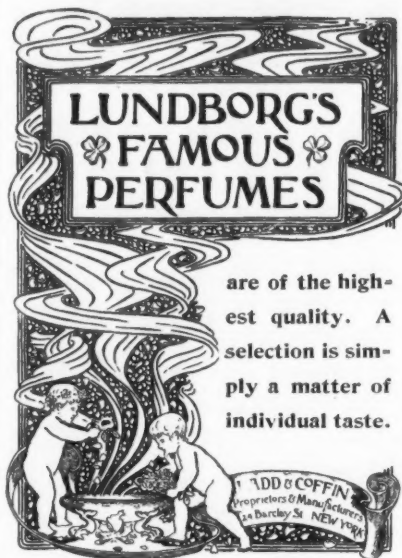
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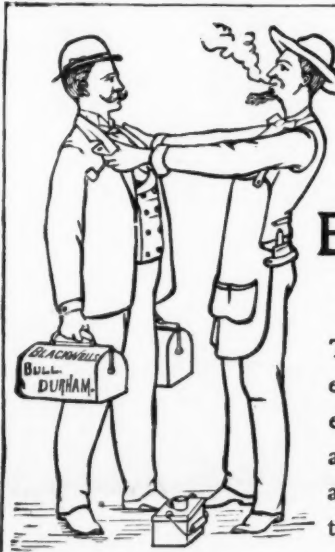
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